

# THE RELATIONSHIP BETWEEN THE LEVEL OF KNOWLEDGE ABOUT GINGIVITIS WITH PREGNANCY GINGIVITIS IN PREGNANT WOMEN AT THE JRENGIK HEALTH CENTER SAMPANG REGENCY

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**ABSTRACT.** Gingivitis is an inflammation of the gums. Gingivitis gravidarum is an inflammation of the gums that occurs in pregnant women. The results of data obtained from the dental clinic of the Jrengik Health Center, Sampang Regency from 2021-2022, pregnant women who experienced gingivitis experienced an increase, namely 15% in 2021 and 26.5% in 2022. This study aims to determine the relationship between the level of knowledge about gingivitis with pregnancy gingivitis in pregnant women at the Jrengik Health Center, Sampang Regency. Data collection using observation and questionnaires. This type of research is analytic using cross sectional method. The analysis technique used Spearman's rho correlation test. The level of knowledge about gingivitis among pregnant women is still low. The most common gingivitis in pregnant women is gingivitis in the moderate category. There is no significant relationship between knowledge about gingivitis with pregnancy gingivitis in pregnant women at the Jrengik Health Center, Sampang Regency.

**Keywords:** Knowledge of gingivitis, pregnancy gingivitis, pregnant women

## 1 BACKGROUND

According to Pradnyanaputri et al., (2018) oral health is one part of general health. Maintaining oral health can be done to prevent dental and oral diseases, and increase endurance. One disease that often occurs is gingivitis. Gingivitis is an inflammation of the gums. Gingivitis Gravidarum is an inflammation of the gums that occurs in pregnant women. This condition is often referred to as pregnancy gingivitis. This occurs due to an increase in the hormones estrogen and progesterone in the blood (Togoo, R. A et al., 2019)

Indonesian Dental Association states that the prevalence of gingivitis in the world is 75-90% with a moderate category of 75%, while in the United States the prevalence of gingivitis in the young population reaches 82% and in adults reaches more than 50%, while the prevalence of gingivitis in pregnant women in the world ranges from 30% to 100% of the total number of pregnant women in the world (Bansal, 2012 cit. Safitri, 2020).

According to Safitri (2020) There are several factors that cause gingivitis in pregnant women, namely gestational age, oral hygiene, anemia, CED (Chronic Energy Deficiency), and morning sickness (Ramazani, N et al., 2014). Morning sickness experienced by pregnant women causes laziness to rinse their mouth or brush their

teeth because it can cause nausea and vomiting again, which means that pregnant women do not maintain oral hygiene, causing plaque and this is considered the main factor causing gingivitis (Ganesh, A et al., 2011)

The results of basic health research in 2018 stated that the Indonesian people who experienced oral health problems amounted to 13.9%, namely periodontal disease (Gums bleed easily). In East Java province, periodontal disease reached 10.5%. The proportion of oral health problems in periodontal tissue (gums bleed easily) based on female gender is 14.2%, one of which is suffered by pregnant women during their pregnancy (Kemenkes RI, 2018).

According to Kemenkes RI (2012), Stating that maintaining oral health during pregnancy is useful for maintaining the condition of the fetus so that it continues to grow and develop healthily and perfectly, and prevents the occurrence of babies born with abnormal weight or born prematurely (Mital, P et al., 2013)

Oral health of pregnant women is carried out integrated with Ante Natal Care (ANC) examinations since the first visit (K1) (Patil, S et al., 2018). This Ante Natal Care (ANC) program consists of counseling in the form of providing communication, information, and education (IEC) regarding oral health, especially on how to maintain teeth in pregnant women (Permenkes RI, 2015).

Based on data obtained from the dental clinic of the Jrengik Health Center, Sampang Regency, the number of K1 pregnant women who checked their teeth at the dental clinic from January to December in 2021 was 615 pregnant women with an average of 51 pregnant women per month with the data obtained that pregnant women who experienced gingivitis were 92 (15%) pregnant women and the rest experienced other oral health problems such as dental caries, tartar, periodontitis and healthy teeth (Rakchanok, N et al., 2010)

In 2022 the number of K1 pregnant women who checked their teeth at the dental clinic in January-November 2022 was 577 people with an average per month of 52 pregnant women with data obtained as many as 153 people (26.5%) pregnant women experienced gingivitis and the rest experienced other oral health problems.

Based on the data above, in 2021 to 2022 the number of cases of gingivitis in pregnant women has increased. So that researchers feel the need to conduct research to determine the relationship between the level of knowledge about gingivitis with pregnancy gingivitis in pregnant women at the Jrengik Health Center, Sampang Regency in 2023.

## **2 RESEARCH METHODS**

The type of research used in this study was an analytic study with a cross sectional method. The research location is Jrengik Health Center, Sampang Regency and the research time was conducted from January 2023 to March 2023. The population in this study were pregnant women who came to do ANC (Ante Natal Care) checks every month at the Jrengik Health Center and the sample size was 30 pregnant women. The sampling technique used was non-random sampling with accidental sampling technique. Data collection techniques using questionnaire sheets for knowledge variables and gingivitis examination sheets for gingivitis variables. The data analysis application with the Spearman's Rho Test analysis method and was presented in the form of a percentage frequency table and narrative. The tool used to measure gingivitis in pregnant women in this study is a dental probe.

### 3 RESULTS

#### 3.1 Frequency Distribution

**Table 1.** Frequency distribution in pregnant women at Jrengik Health Center, Sampang Regency

<b>Trimester of Pregnancy</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
1st Trimester	7	23.3
2nd Trimester	11	36.7
3rd Trimester	12	40.0
Total	30	100

  

<b>Age (Year)</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
11-20	6	20.0
21-30	16	53.3
31-40	8	26.7
>41	0	0
Total	30	100

  

<b>Education</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
SD	2	6.7
SMP	4	13.3
SMA	23	76.7
Colleges	1	3.3
Total	30	100

  

<b>Jobs</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
Civil Servant	1	3.3
Private Employee/ Self-employed	6	20.0
Housewife	23	76.7
Others...	0	0
Total	30	100

Based on table 1.1 the results show that most of the gestational age of this study are pregnant women in Trimester 3, which is 40.0% as many as 12 pregnant women.

#### 3.2 Knowledge Category Of Pregnant Women

**Table 2.** Frequency Distribution of Knowledge Category of pregnant women at Jrengik Health Center, Sampang Regency

<b>Category</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
Good Knowledge	3	10.0
Fair Knowledge	4	13.3
Poor Knowledge	23	76.7
Total	30	100

The level of knowledge of pregnant women is categorized into three, namely good knowledge, fair knowledge and poor knowledge.

### 3.3 Category of Gingivitis in Pregnant Women

**Table 3.** Distribution of Gingivitis Category in Pregnant Women at Jrengik Health Center, Sampang Regency

Category	Frequency (f)	Percentage (%)
Mild	9	30.0
Moderate	21	70.0
Severe	0	0
Jumlah	30	100

Based on table 1.3, it was found that most respondents had moderate gingivitis status of 70% as many as 21 people.

**Table 4.** Results of Spearman's rho Test Analysis of the Relationship between Level of Knowledge About Gingivitis with Pregnancy Gingivitis in Pregnant Women at Jrengik Health Center, Sampang Regency

Variabel	Spearman's rho	
	<i>p</i>	Correlation Coefficient
Level of Knowledge About Gingivitis with Pregnancy Gingivitis in Pregnant Women	0.488	0.132

Based on table 1.4 shows that the results of the analysis obtained asymp.sig (a) with a value of 0.488.

## 4 DISCUSSION

For the age of the results show that most pregnant women are 21-30 years old by 53.3% as many as 16 people. The education of pregnant women shows that most of them are high school graduates (SMA) by 76.7% as many as 23 people. And the work of pregnant women shows that most of them are housewives by 76.7% as many as 23 pregnant women.

Based on table 1.2, it can be seen that most of the respondents who have answered the questionnaire are in the category of poor knowledge, namely 76.7% of 23 people. This is similar to research conducted by Lelellavathil *et al.*, (2018) entitled "Knowledge, attitude, and practices related to oral health among pregnant women attending a government hospital, Chennai" which shows that the knowledge of pregnant women about oral health is still low, where 95% of respondents do not know that dental and oral diseases can cause babies to be born with low birth weight (LBW).

Researchers assume that the low knowledge of pregnant women is caused by a lack of information and guidance from health services, especially obstetricians and gynecologists and dentists / dental nurses. In addition, there is also a lack of information from mass media and social media such as television, radio, newspapers,

bulletins and so on. Therefore, baby mothers do not know in detail about gingivitis during pregnancy (Boutigny, H et al, 2016) (Zhong, C et al., 2015).

This is similar to research conducted by Fione and Maramis (2018) entitled "The Relationship between Pregnant Women's Knowledge of Dental and Oral Hygiene with Gingivitis Pregnancy at Puskesmas Ranomut Manado" which shows that the status of gingivitis in pregnant women is included in the low category, namely 42.3% as many as 25 people.

Gingivitis is an inflammation of the gums. Gingivitis gravidarum is an inflammation of the uterus that occurs in pregnant women (Nagi, R., Sahu, S., & Nagaraju, R, 2016). This condition is often referred to as pregnancy gingivitis. This occurs due to an increase in the hormones estrogen and progesterone in the blood (Safiltril, 2020) (Sinha, et al., 2020).

Because the sig value ( $p$ )  $> 0.05$ , it can be concluded that H1 is rejected and H0 is rejected, meaning that there is no relationship between the level of knowledge about gingivitis and pregnancy gingivitis in pregnant women.

This is similar to research conducted by Silmamora *et al.*, (2022) entitled "The Relationship between Pregnant Women's Knowledge about Dental and Oral Health Maintenance with Gingivitis Complaints at the Putat Jaya Health Center, Surabaya City" which shows that there is no relationship between pregnant women's knowledge about oral health maintenance with gingivitis complaints (Malik, A et al., 2021)

This research is also similar to research conducted by Saputril (2016) *cilt.* Safiltril (2020) which shows that there is no relationship between the level of knowledge and the survival rate of gingivitis in pregnant women (Rajesh, K. S et al., 2018). This may be due to the lack of awareness of pregnant women about how to maintain oral health during pregnancy (Catao, C. D. D. S et al., 2015) (Petit, C et al., 2021)

However, there are other factors that cause gingivitis pregnancy besides knowledge in pregnant women. According to Wiljaksana (2020) that there are factors that cause pregnancy gingivitis, namely due to local factors such as plaque and calculus and systemic factors such as hormonal. Meanwhile, according to Benyamin Bloom (1908) *cilt.* Notoatmodjo (2014) pregnancy gingivitis is caused by external factors which are divided into 3 domains, namely, knowledge, attitudes, and actions (Kabali, T. M., & Mumghamba, E. G, 2018)

According to Safiltril (2020) there are several common factors for gingivitis in pregnant women, such as gestational age, dental and oral hygiene, anelmila, CED (Chronic Energy Deficiency), and morning sickness

## 5 CONCLUSION AND RECOMMENDATION

After conducting research on the relationship between the level of knowledge about gingivitis with pregnancy gingivitis in pregnant women at the Jrengik Health Center, Sampang Regency, it can be concluded that the level of knowledge about gingivitis in pregnant women is in the low category, pregnancy gingivitis in pregnant women is in the moderate category, and there is no significant relationship between the level of knowledge about gingivitis and pregnancy gingivitis in pregnant women. It is highly expected that pregnant women are more careful in maintaining their oral health, because when pregnancy occurs, there are hormones that cause pregnant women's behavior to be bad. If pregnant women experience nausea and vomiting, the mouth should be cleaned using mouthwash using warm salt water and brushing teeth 1 hour afterwards. because gingivitis during pregnancy can have an impact on fetal health and also the state of pregnancy, namely the occurrence of premature birth characterized by low birth weight (LBW).

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