

THE RELATIONSHIP BETWEEN KNOWLEDGE ABOUT ORAL HEALTH AND THE INCIDENCE OF DENTAL CARIES IN PREGNANT WOMEN (STUDY AT BABAT LAMONGAN HEALTH CENTER)

Nabila Lailatussa'adah Rahmawati Nisa^{1(CA)}, Ratih Larasati², I.G.A. Kusuma Astuti N.P³

¹²³Dental Health Department of Politeknik Kemenkes Surabaya

email: nbilalrn60@gmail.com

ABSTRACT. Pregnant women's lack of knowledge about oral health can cause dental health problems during pregnancy. Dental caries or cavities are conditions in the oral cavity caused by bacterial destruction of the hard tissues of the teeth, such as enamel, dentin, and cementum. The high percentage of dental caries in pregnant women at Puskesmas Babat Lamongan. To determine the relationship between oral health and the incidence of dental caries. Type of research is analytical research with a cross sectional design with 35 pregnant women as respondents. Non-random sampling technique using accidental sampling method. The Result is showed that the knowledge of pregnant women in the sufficient category was 22 people (62.9%) and pregnant women who had dental caries were 20 people (57.2%). By using Chi-square data analysis technique. Conclusion is a relationship between knowledge and dental caries at Puskesmas Babat Lamongan. Pregnant women continue to explore information about pregnancy care carried out by mothers during pregnancy, so that mothers can go through pregnancy healthily and smoothly until the delivery period.

Keywords: Level of knowledge, pregnant women, dental caries

1 INTRODUCTION

Pregnant women often feel toothache and bleeding gums during their pregnancy. This happens because of changes in the body, such as anatomical, physiological and psychological changes (Milah, 2019) (Rakchanok, N. et al., 2010). Dental and oral diseases are common and related to daily life, these problems can be dangerous during pregnancy or childbirth, and can cause dental caries and chronic diseases in early childhood (Suwargiani et al., 2018) (Shamsi, M et al., 2013). Dental caries or dental cavities are conditions in the oral cavity caused by bacterial destruction of hard tooth tissues, such as enamel, dentin, and cementum. Plaque formed from food particles and bacteria in the oral cavity causes tooth decay (Massoni, A. C. D. L. T et al., 2015). Enamel erosion, the process of wearing away tooth enamel, can lead to small holes in the enamel, which trigger tooth decay (Mital, P et al., 2013). Factors such as knowledge, education level, age, socioeconomic circumstances, culture, and knowledge are related to the incidence of caries in pregnant women (Zahra et al., 2022) (Kencana, I. G. S, 2021).

Based on the Decree of the Minister of Health of the Republic of Indonesia in 2015, a Roadmap for Dental and Oral Health Services for the long term (2015-2030)

was made, which was then translated into a National Action Plan which became a national priority every five years. The national action plan for oral health services in the first year (2015-2020), aims to strengthen oral health services to support the achievement of Healthy Caries-Free Indonesia 2030. The 2020 NAP (National Action Plan) target on dental caries is 54.6% (Sakti et al.,2016) (Mastej, A et al., 2022).

Based on data obtained from the Babat Community Health Centre, Lamongan Regency, between July and December 2022 there were 168 pregnant women who had their teeth examined at the dental clinic, and 93 pregnant women had caries (55.3%) and the remaining 75 pregnant women. Women had problems with other teeth and mouth (44.6%). This is not in accordance with the RAN target for oral health services. Based on the data above, it can be concluded that the problem of this study is the high percentage of dental caries in pregnant women at the Babat Health Centre, Lamongan Regency.

2 RESEARCH METHODS

This study is an analytical study with a cross sectional design. This study was conducted at the Babat Health Centre Jl. Gotong Royong No. 140, Tanggul Rejo, Babat, Babat sub-district, Lamongan district. The sample obtained was 35 pregnant women. The research sampling technique used non-random sampling method with accidental sampling technique. This study uses two variables, namely independent knowledge about oral health and the dependent variable of dental caries in pregnant women. Analysing data with Chi-square to determine the relationship between knowledge and dental caries of pregnant women. Furthermore, the calculation results are presented in tabular form. Ethical approval for this study was obtained from the Ethics Committee of the Health Polytechnic of the Ministry of Health Surabaya, with approval number: No.EA/1847/KEPK- Poltekkes_Sby/V/2023

3 RESULTS

Table 1. Frequency Distribution of Characteristic of Pregnant Women

| Characteristic of Responden | Frequency | Percentage (%) |
|--|------------------|-----------------------|
| Frequency Distribution of Maternal | | |
| Age | | |
| 20 – 25 years | 10 | 28,5 |
| 26 – 30 years | 15 | 43,0 |
| 31 – 35 years | 7 | 20,0 |
| 36 – 45 years | 3 | 8,5 |
| Frequency Distribution of Maternal Education | | |
| SD | 3 | 8,6 |
| SMP | 5 | 14,2 |
| SMA | 22 | 63,0 |
| D3/Bachelor | 5 | 14,2 |
| Frequency Distribution of Maternal Employment | | |
| Housewife | 15 | 43,0 |
| Trader | 10 | 28,5 |
| Self-employed | 7 | 20,0 |

| | | |
|--|----|------|
| Teacher | 3 | 8,5 |
| Frequency Distribution of Pregnancy Age | | |
| Trimester 1 | 12 | 34,2 |
| Trimester 2 | 15 | 43,0 |
| Trimester 3 | 8 | 22,8 |

Table 1 shows that the frequency distribution of the examined people is the age of the majority of pregnant women with 43% at the age of 26-30 years, the education of the majority of pregnant women is secondary school with 63%. At 43%, most of the pregnant women were housewives, while depending on the gestational age, the majority at 43% of the gestational age in the second trimester.

Table 2. Frequency Distribution of Knowledge about Dental and Oral Health

| Knowledge Level | Frequency | Percentage (%) |
|------------------------|------------------|-----------------------|
| Both | 2 | 5,7 |
| Enough | 22 | 62,9 |
| Less | 11 | 31,4 |
| Total | 35 | 100 |

Table 2 shows that 22 (62.9%) pregnant women had a moderate level of knowledge, while 2 (5.7%) pregnant women had a good level of knowledge.

Table 3. Frequency Distribution of Dental Caries in Pregnant Women

| Caries category | Frequency | Percentage (%) |
|------------------------|------------------|-----------------------|
| There is caries | 20 | 57,2 |
| There isn't caries | 15 | 42,8 |
| Total | 35 | 100 |

Table 3 shows that there were 20 pregnant women with cavities (57.2%) and 15 pregnant women without cavities (42.8%).

Table 4. Results of Data Analysis of the Relationship between Knowledge of Dental and Oral Health with the Incidence of Dental Caries in Pregnant Women

| Dental Caries Category | Knowledge Level | | | Total | Sig. |
|-----------------------------------|------------------------|---------------|-------------|--------------|-------------|
| | Less | Enough | Both | | |
| | n | n | n | | |
| There is caries | 10 | 9 | 1 | 20 | |

| | | | | | |
|--------------------|-----------|-----------|----------|-----------|-------|
| There isn't caries | 1 | 13 | 1 | 15 | 0.023 |
| Total | 11 | 22 | 2 | 35 | |

Table 4 produces a Sig. (2-tailed) of 0.023 using the Chi-square statistical test. Statistical testing showed $\alpha < 0.05$, meaning that there is a significant relationship between oral health knowledge at Puskesmas Babat Lamongan and the incidence of dental caries in pregnant women.

4 DISCUSSION

Knowledge is the result of human perception of objects through their five senses and produces knowledge (Notoatmodjo, 2014). Knowledge is very important in taking action. Conducting promotional activities in the form of counseling to change behaviour, such as knowledge, attitudes and behaviour. The importance of oral health knowledge in pregnant women can affect their attitude in maintaining healthy oral health.

This is in line with the research of Ardhianti & Nufus (2022) that most pregnant women refuse to have dental and oral health checks due to lack of information or knowledge about the importance of dental and oral health checks (Kateeb, E., & Momany, E, 2018) (Adeniyi, A et al., 2011).

One of the causes of oral health problems in the community is behavioural factors or attitudes that ignore oral hygiene. The cause is a lack of knowledge about oral health and care. A person's perception of the importance of dental health can be determined from this knowledge (Boggess, K. A at al., 2011). People with advanced knowledge have a greater interest in maintaining dental health (Yuniarly et al., 2019) (Barbieri, W et al., 2018).

Referring to the modification of Green and Blum's theory in Notoatmodjo (2018) on the relationship between health behaviour and a person's health status, the knowledge of pregnant (Shaghaghian, S et al., 2017)

women supports the presence or absence of oral health behaviour in pregnant women. This is in line with Abdat and Ismail's research which found that the less knowledge pregnant women have about oral health, the more cavities they have. Lack of knowledge also causes them to be unmotivated and lack awareness of the importance of regular brushing and dental check-ups (Shabbir, S et al., 2015) (Nagi, R et al., 2016).

Research by Yuwansyah & Nuraen (2020) showed a relationship between knowledge and the incidence of dental caries in pregnant women. Therefore, dentists and oral health experts should inform pregnant women about tooth decay and how to prevent it. Pregnant women are expected to maintain their dental health by brushing their teeth regularly every day and avoiding foods that can cause tooth decay. A mother's lack of knowledge about maintaining oral health affects the health of both mother and foetus. Pregnant women are at risk of tooth decay due to repeated vomiting during pregnancy. Repeated vomiting can cause pregnant women to neglect brushing their teeth, which can lead to low birth weight (LBW) (Shimpi, N et al., 2021) (Ibrahim, H. M et al., 2016)

This is in line with the research of Aini et al., (2018) This is in accordance with research which found that cariogenic bacteria *Streptococcus mutans* and *Lactobacillus* sp easily grow because vomiting increases the acidity of the oral cavity. Cavities in pregnant women not only affect the mother but also the foetus. There are impacts of tooth decay on the mother such as Chronic Energy Deficiency (CHD), premature birth, and pre-eclampsia, and the impact on the baby can cause LBW (Low Birth Weight).

The state of the oral cavity of pregnant women is influenced by a lack of knowledge about the importance of dental and oral health checks in pregnant women. It is very important to make preventive and promotive efforts in this regard (Gaffar, B. O et al., 2016). An integrated Antenatal Care (ANC) programme has been implemented at Puskesmas Babat, including posyandu counselling and dental check-ups for pregnant women. Providing educational materials on how to maintain oral health during pregnancy and prevent dental caries. Efforts can be made for pregnant women to know how to maintain oral health by conducting oral health checks at the beginning of pregnancy and seeking information from health services about what should be prohibited and done during pregnancy. Knowledge of oral health in pregnant women is very necessary, if pregnant women do not have this knowledge then pregnant women will allow their oral health conditions without any prevention in maintaining oral health.

5 CONCLUSION

There is a relationship between knowledge and dental caries at Puskesmas Babat Lamongan. Pregnant women continue to explore information about pregnancy care carried out by mothers during pregnancy, so that mothers can go through pregnancy healthily and smoothly until the delivery period

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