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ASSESSMENT OF DENTAL STATUS AND DMFT INDEX IN PREGNANT WOMAN ATTENDING COMMUNITY HEALTH CENTRE MADE, SURABAYA

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Abstract

Pregnancy-related oral health conditions highlight the importance of maintaining dental care, as they can be detrimental to both mother and fetus. In Indonesia, there are considerable gaps in access to general and dental healthcare and there is a lack of reliable data on the oral health status and dental care provision for pregnant women. This study aimed to gain preliminary findings on the oral health status of a vulnerable sample of pregnant women through assessing decay, missing, and fillings (DMFT) at the Made community health centre. In order to secure the health of mothers and children data of this study might improving access to dental care for pregnant women needs to be a priority in relevant policies.

Keywords: DMFT, Pregnant Women, Oral Health

INTRODUCTION

Evidence suggests that pregnancy exerts a significant influence on oral health. Consequently, it is imperative to recognise the unique oral health requirements of pregnant women, as they constitute a distinct demographic with specific needs (Kamate et al., 2019). During pregnancy, there are significant physical changes to the female body, resulting from a multifaceted relationship between hormonal, genetic, and environmental factors, with the overall aim of supporting fetal development (Piccinni et al., 2021). A plethora of international studies on the subject have demonstrated that oral health provision for pregnant women has been insufficient (Navya et al., 2025). Pregnancy is associated with a range of physiological shifts within the body, including alterations to the oral cavity. It is imperative to emphasise that failure to provide adequate and punctual care may result in the onset of oral diseases (AlHumaid et al., 2024). It is well-documented that pregnant women are predisposed to an elevated susceptibility to the development of various oral diseases, including but not limited to the onset of dental caries (Kamalabadi et al., 2025).

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Dental caries is one of a major health problems, which is a multifaceted ailment that can be described as the demineralisation of tooth hard tissues by acids produced from food remnants or sucrose (Cho et al., 2020). As stated by the World Health Organization approximately 2.4 billion subjects have been diagnosed with dental caries (35.3% of the worldwide total population) (Dorri et al., 2017). The heightened propensity for sugary and starchy foods during pregnancy (Rio et al., 2020), coupled with shifts in oral factors like heightened oral acidity and reduced saliva output (Oziegbe and Schepartz, 2023), often compounded by trepidation surrounding dental procedures (Muralidharan and Merrill, 2019), engenders an elevated risk of developing dental caries among pregnant women (Kühle and Wacker, 2020).

Emphasise is placed upon the potential lack of awareness among pregnant women residing in the vicinity of Sambikerep District whose attending to Community Health Centre Made, Surabaya City, concerning the correlation between dietary habits, oral hygiene practices, and the development of dental diseases. The prevalence of dental caries is high due to a number of factors. These include a tendency to consume excess sugary foods and beverages during pregnancy, as well as inadequate oral hygiene practices (Pecci-Lloret et al., 2024). In the absence of adequate education and intervention, the repercussions of substandard oral health persist, exerting a detrimental influence on both children and adults (Kateeb and Momany, 2018). This phenomenon is particularly salient among pregnant women, as suboptimal oral health may exert adverse effects that extend beyond the oral cavity and have implications for the course of the pregnancy (Iheozor-Ejiofor et al., 2017). Consequently, it is imperative to undertake a methodical evaluation of the oral health status of pregnant women. The objective of this research is to analyse the DMF-T index among pregnant women, with a view to providing a clear picture of the extent of dental caries, tooth loss, and restorative treatments. The objective of this study is to provide policymakers, healthcare providers and local authorities with the necessary information regarding the pressing need for targeted dental health interventions. This will be achieved by collecting and evaluating data on the oral health status of the community.

IMPLEMENTATION METHOD

This study is a descriptive study with a cross-sectional design and was conducted at the Community Health Centre Made, Surabaya, on Saturday, October 11th 2025. Population constituting the subject of this study was comprised of 16 pregnant women who came to Community Health Centre Made on that day, with an age range extending from 21 to 35 years. Sample size was determined by means of convenience sampling, which entailed canvassing the pregnant women as residents whose living around. DMF-T index was utilised as the metric for assessing dental caries status. DMF-T index examination utilised essential diagnostic instruments, comprising a dental mirror and an excavator. The objective of the DMF-T index examination was as follows: to plan proactive and pre-emptive measures, and to determine the treatment requisites for the community residing in the Community Health Centre Made area.

RESULTS AND DISCUSSION

Data used in this study was primary data, obtained by conducting DMFT examinations on 16 pregnant women who visited the Made Community Health Centre. Based on the table 1 the largest age group was in the age range of 20-25 years old (56%) and pregnant women in the trimester 1and 2 (38%) are constituted the largest group in this study. According to the WHO, DMFT scores are interpreted as follows: 0.0 – 1.1 (very low), 1.2 – 2.6 (low), 2.7 – 4.4 (moderate), 4.5 – 6.5 (high), > 6.6 (very high) (Ulum and Hadi, 2024). Among the group of pregnant women examined as represented in table 2, the highest decay index based on age group were found in the age group of 20-25 years old (39%), highest missing index were in the age group of 31-35 years old (14%) and none highest filling index were found. Whereas according to the trimester of pregnancy as represented in table 3, the highest decay index based on pregnancy trimester were found in the1st trimester (29%), the highest missing index were in pregnancy trimester 3rd (14%) and none the highest filling index were found. Furthermore, around 12 (75%) of pregnant respondents were found to have dental caries as represented in table 4 with an overall DMF-T index score of 3.5, which is considered moderate as represented in table 5.

Table 1. Characteristic of Respondents

Respondents	Total (n=16)	Percentage (%)
Age Group		
20-25	9	56
26-30	3	19
31-35	4	25
Pregnancy Trimester		
1st	6	38
2nd	6	38
3rd	4	25

Table 2. DMF-T Result Based on Age Group

Age Group	DMF-T Index	Total (tooth)	Percentage (%)
20-25	Decay	22	39
	Missing	4	7
	Filling	0	0
26-30	Decay	9	16
	Missing	1	2
	Filling	0	0
31-35	Decay	12	21
Age Group	**DMF-T Index**	**Total (tooth)**	**Percentage (%)**
	Missing	8	14
	Filling	0	0
TOTAL		**56**	**100**

Table 3. DMF-T Result Based on Pregnancy Trimester

Pregnancy Trimester	DMF-T Index	Total (tooth)	Percentage (%)
1st	Decay	16	29
	Missing	3	5
	Filling	0	0
2nd	Decay	14	25
	Missing	2	4
	Filling	0	0
3rd	Decay	13	23
	Missing	8	14
	Filling	0	0
TOTAL		**56**	**100**

Table 4. Dental Caries Status among Respondents

	Total Respondents	Percentage (%)	Prevalence
With Decay	12	75	75
Without Decay	4	25	
TOTAL	**16**	**100**	

Table 5. DMF-T Index in Pregnant Women Visiting the Community Health Centre Made

DMF-T	Examination Result	Total Respondents	DMF-T Index	Interpretation
Decay (D)	43	16	3,5	Moderate
Missing (M)	13			
Filling (F)	0			

Pregnancy is divided into three trimesters. From conception to the 13th week is the first trimester. The next trimester extends from the 14th to the 26th week. The final trimester lasts from the 27th week until the end of the pregnancy. Pregnancy also influences fetal development due to its effect on physiology and hormones (Pecci-Lloret et al., 2024). Nausea and vomiting are common among pregnant women, and they tend to snack more often, especially on sugary foods (Yunita Sari et al., 2020). A combination of factors, including an acidified oral cavity, shifts in saliva composition, and inadequate oral hygiene practices, contributes to an elevated risk of developing caries (Kateeb and Momany, 2018). As shown by the data obtained during this examination, almost all pregnant women inspected had cavities in their mouths. Cavities were also found in all age groups and trimesters of pregnancy as well as in the interpretation of the total DMF-T index score, which showed a moderate condition. This means that if left untreated, it is possible that this score will worsen. Medical care providers have a potential role in preventive oral healthcare, as indicated by these statistics. Regular and frequent contact with doctors, nurses or midwives during antenatal care provides an opportunity for medical professionals in this field to conduct oral health screenings and arrange referrals to dentists as necessary (Yunita Sari et al., 2020).

Figure 1. Oral Assessment and Examination in Pregnant Women

CONCLUSION

In order to reduce the prevalence of tooth decay, future dental health care should include the integration of oral health care as part of antenatal care routines and the provision of dental insurance.

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