

**FEATURE OF PATHOLOGICAL LESIONS IN THE ORAL CAVITY
OF PREGNANT WOMEN AT A HEALTH CARE CENTER UNDER
THE KESDAM XIV AUTHORITY**

THESIS

*Submitted as One of the Requirements to Achieve
Bachelor's Degree in Dentistry*



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**DENTISTRY STUDY PROGRAM
FACULTY OF DENTISTRY
HASANUDDIN UNIVERSITY**

2023

VALIDATION SHEET

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A Health Care Center Under The Kesdam XIV Authority

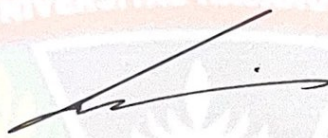
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A handwritten signature in black ink, appearing to be 'Erni Marlina', written over a horizontal line. The signature is stylized and cursive.

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ORAL DISEASES PROGRAM

FACULTY OF DENTISTRY

HASANUDDIN UNIVERSITY

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MOTTO

“Work until you don’t have to introduce yourself”

PREFACE

Praise and gratitude to Allah for all His blessings and companionship which always give the ability and smoothness to the author so that the thesis entitled “Feature Of Pathological Lesions Of The Oral Cavity In The Pregnant Women At A Health Care Center Under The Kesdam XIV Authority ” as one of the requirements can be completed.

During the process of preparing this thesis, it certainly did not escape the guidance, support and assistance of various parties. On this occasion, the author would like to express his gratitude to those who have helped complete this thesis, namely to:

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5. My father (**Alm**) **Dr.Ir. H Muhammad Hasbi, S.T., MSP**, my mother **Hj. Atirah Kallabe** as well as the author's sisters and brother, **Novitasari S.T, Ida Fauziah, Trisnawati S.H, Imas Fahrissa SKM, Salwa Aulia Yulianti, Hairah Laila Apriyani, S.T and Muh. Raihan Rofiq** whom I love very much. Thank you to my entire extended family. The deepest gratitude and appreciation from the bottom of my heart, the author gives to all of them who have always provided endless prayers, support, assistance, education, advice, attention, enthusiasm, motivation, and love. There are no words or sentences that can express the magnitude of my gratitude. One thing is for sure, I am truly grateful and happy to have all of you by my side in my times of need. Nothing or no one in this world can replace you.
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10. and partner who accompanies the writer all this time, who always listens to complaints, calms, helps and encourages the writer all this time.
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Finally, the author realizes that there are still many shortcomings in the preparation of this thesis. For this reason, the author apologizes and understands if there are any mistakes, mistakes or shortcomings in writing this thesis, whether consciously or unconsciously.

Makassar, 23th November 2023

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ABSTRACT

Background: Dental and oral health can be influenced by several factors such as heredity, environment, behavior and oral health services. Poor dental and oral hygiene is also often found in pregnant women which can affect pregnancy such as premature birth, low birth weight and preeclampsia. Hormonal changes during pregnancy are usually accompanied by changes in eating patterns that trigger increased stress. Therefore, pregnant women tend to ignore their oral health. This situation is caused by an increase in the hormones estrogen and progesterone during pregnancy which is accompanied by plaque that sticks to the teeth due to morning sickness and vomiting (morning sickness). The hormones estrogen and progesterone can worsen gingival edema and increase gingival vascular permeability, thereby affecting gingival microvascularization and causing an excessive response to local irritants. **Purpose:** to determine the incidence of pathological lesions of the oral cavity that occur in pregnant women. **Metode:** the method used is a descriptive observational method. **Result:** data collection from the research showed that from all trimesters, trimester 1 (4.86%), trimester 2 (11.34%) and trimester 3 (11.43%) aged 20-37 years met the criteria and were cooperative. The number of participants in this study was 54 pregnant women. **Conclusion:** There is no description of the incidence of pathological lesions that occur in pregnant women. However, changes in taste were found. This change in taste may be caused by pregnancy patterns, for example morningsickness. This needs to be researched further.

Keyword: Oral Cavity, Pregnant women, Pathological Lesions

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CHAPTER I

INTRODUCTION

1.1. Background

Health is one aspect that really needs attention, one of which is dental and oral health. Maintaining healthy teeth and mouth is very important, because the function of the teeth and oral cavity is interrelated with the human digestive system.¹

Oral health must be maintained as much as possible for the general wellbeing of the body and affects a person's quality of life including the function of speaking, chewing and self-confidence². Lack of knowledge about the importance of oral hygiene will cause poor oral health conditions and can cause various oral diseases.

Dental and oral health can be influenced by several factors such as heredity, environment, behavior and oral health services. Poor dental and oral hygiene is also often found in pregnant women which can affect pregnancy such as premature birth, low birth weight and preeclampsia.³

Pregnancy is a physiological process that causes changes in a woman's body. These changes include changes in anatomy, physiology, malnutrition, genetics, environment, hypertension, lifestyle and psychology, followed by hormonal changes which not only affect general health, but also dental and oral health.⁴

Hormonal changes during pregnancy are usually accompanied by changes in eating patterns that trigger increased stress. Therefore, pregnant women tend to ignore their oral health. This situation is caused by an increase in the hormones

estrogen and progesterone during pregnancy which is accompanied by plaque that sticks to the teeth due to morning sickness and vomiting (morning sickness).⁵

The hormones estrogen and progesterone can worsen gingival edema and increase gingival vascular permeability, thereby affecting gingival microvascularization and causing an excessive response to local irritants.⁶

An increase in this hormone is often characterized by feelings of laziness, nausea and more sensitivity. This causes most pregnant women to ignore dental and oral hygiene and ultimately can affect the growth and development of the fetus.⁶

With hormonal changes related to changes in blood vessels, the response is more sensitive, causing inflammation of the gingiva (Eplulis Gravidarum), Angular Cheilitis, and Gingivitis Gravidarum.

This condition is characterized by interdental spaces that are red, swollen and bleed easily accompanied by pain due to the hormone progesterone which has a greater influence on the inflammatory process. Therefore, it is important for pregnant women to be aware of oral hygiene to maintain their health, because dental and oral hygiene can determine the extent of the risk of dental and oral diseases that have an impact on pregnancy.

Based on the description above, researchers are interested in researching and studying more further description of the incidence of oral cavity pathological lesions in pregnant women at level I health service centers under the ranks of Kesdam XIV Hasanuddin.

1.2. Formulation of the problem

Based on the background described above, the problem can be formulated as follows:

What is the description of the incidence of pathological lesions of the oral cavity that occur in pregnant women?

1.3. Research purposes

Based on the problem formulation described above, this paper aims as follows, namely to determine the incidence of pathological lesions in the oral cavity that occur in pregnant women. **1.4. Benefits of research**

1.4.1. Benefits for Theoretical

Increase insight and knowledge of writing regarding pathological lesions of the oral cavity in pregnant women and can be a reference for further research.

1.4.2. Clinical Benefits

Providing information about the lifestyle of pregnant women at level I health service centers under the ranks of Kesdam XIV Hasanuddin which can cause pathological lesions in the oral cavity of pregnant women.

CHAPTER II

LITERATURE REVIEW

2.1. Oral Health

Health is the most important part of a person's life. Health is a fundamental human right for every society. Lack of attention to personal hygiene, especially oral hygiene, causes the prevalence of oral hygiene to still be quite high.⁷

Dental and oral health is an integral part of body health, meaning that a healthy body cannot be separated from healthy teeth and mouth. Therefore, to carry out health development, development in the dental health sector must not be abandoned. However, currently Indonesian people still do not realize the importance of good dental health.⁸

Dental and oral hygiene is a condition where the teeth in the oral cavity are clean, free from plaque, tartar and food and do not have an unpleasant odor. Good dental hygiene can affect a person's quality of life, such as chewing, swallowing, eating, and speaking. On the other hand, poor oral hygiene can cause problems in daily life.

Lack of knowledge about the importance of dental and oral hygiene influences poor dental and oral health behavior, including the health behavior of pregnant women during dental examinations.⁹

The clinical manifestation of gingivitis that occurs in most pregnant women causes gum changes which usually appear in the second month of pregnancy and peak in the eighth month. Gum inflammation during pregnancy begins with the presence of dental plaque and is exacerbated by the action of pregnancy hormones.¹⁰

The hormones estrogen and progesterone can worsen gingival edema and increase gingival vascular permeability, thereby affecting gingival

microvascularization and causing an excessive response to local irritants.⁶

Involvement of bacteria such as porphyromonas gingivalis, prevotella intermedia, and tanerella focie in the third month of pregnancy is associated with worsening of the periodontal reaction which is usually measured by bleeding at the probing depth.

Dental and oral hygiene care behaviors can be done independently at home such as brushing your teeth, gargling with warm water or mouthwash, flossing, or having regular dental examinations.¹¹

2.2. Pregnancy

Pregnancy is a condition that brings many changes for women, including pregnant women who are physically fit. This can be caused by changes in metabolism, immune response, hormonal changes, malnutrition, genetics, psychology, hypertension, lifestyle and environment.¹²

The relationship between these triggers can indirectly cause various oral manifestations in pregnant women, such as epulis gravidarum, gingivitis gravidarum, and angular cheilitis.

Pregnancy is fertilization or union of sperm with an egg cell followed by conception or implantation. If calculated from conception to birth of the baby, the classification is as follows: ¹³

a. Trimester I (0-3 Months Pregnancy)

During pregnancy, pregnant women usually experience fatigue, nausea, and even vomiting. This causes an increase in acid levels in the mouth.

Plaque proliferation caused by laziness will accelerate tooth decay.

b. Trimester II (4-6 Months Pregnancy)

The gestational age in this trimester still feels the same as in the first trimester. Therefore, one must pay attention to what aspects occur in the first trimester of pregnancy. In addition, hormonal changes and local plaque factors can occur in this trimester which cause abnormalities in the oral cavity, such as:

- 1) Gingivitis gravidarum occurs, it is reddish in color and bleeds easily, especially when brushing your teeth. When swelling occurs, it is usually accompanied by pain or tenderness.
- 2) The appearance of a lump on the gum between two teeth is called epulis gravidarum. In this condition, the gums become reddish blue, bleed easily and the teeth feel loose. These lumps can grow and cover the teeth. In this case, immediately contact a dentist for further treatment.

c. Trimester III (7-9 Months Pregnancy)

The lump on the gum between two teeth, known as epulis gravidarum, reaches its peak in the seventh or eighth month. Although this condition will disappear by itself after giving birth, the health of your teeth and mouth must be monitored and kept clean. After giving birth, mothers must continue to pay attention to and maintain the health of their teeth and mouth for both mother and child.

2.3. Oral Health of Pregnant Women

Prevention and oral health are determining factors, the higher the level of knowledge, the better the dental and oral hygiene during pregnancy. Lack of knowledge about dental and oral health in pregnant women is a major problem because most pregnant women avoid going to the dentist because of their dental problems. Knowledge is influenced by many factors such as Education, age, work and environment, and experience.¹⁴

Changes in the health and condition of the oral cavity during pregnancy are one of the factors causing epulis gravidarum to develop. The damage observed in the oral cavity can be caused by changes in the body's metabolism and immunology, as well as hormonal changes associated with pregnancy. These lesions usually appear in the second or third trimester of pregnancy, the levels of estrogen and progesterone in the blood and saliva increase. One of them is the buildup of plaque and tartar which worsens the condition of the oral cavity.¹⁰

Oral cavity manifestations that are related to risk factors in the form of eating patterns in pregnant women include coated tongue, namely oral cavity manifestations caused by the accumulation of debris and pigment from food, usually caused by soft food diet habits and poor dental and oral hygiene.¹⁵ Lack of nutrition in pregnant women can also trigger RAS or a condition commonly known as recurrent aphthous stomatitis.

Health changes during pregnancy are usually associated with changes in eating patterns and changes in mood which contribute to increased stress, so pregnant women tend to neglect oral health.¹⁴

2.4. Changes That Occur in Pregnant Women

Pregnancy is a physiological condition that causes various changes in the oral cavity, including changes in the endocrine and vascular systems as well as local irritant

factors in the oral cavity. In addition, several studies have identified poor oral health during pregnancy, including due to several changes such as: ¹⁶

2.4.1. Hormones

Hormonal changes during pregnancy are one of the factors that cause the formation of epulis gravidarum. An increase in important hormones during pregnancy, namely estrogen and progesterone in the blood and saliva, causes the buildup of plaque and calculus so that the condition of the oral cavity gets worse and gingivitis occurs.

The hormonal changes associated with changes in blood vessels cause inflammation of the gingiva. This condition is characterized by interdental spaces that are red, swollen and bleed easily accompanied by pain due to the hormone progesterone which has a greater influence on the inflammatory process.

Hormonal changes during pregnancy are usually accompanied by changes in eating patterns that trigger increased stress. Therefore, pregnant women tend to ignore their oral health.¹⁷

2.4.2. Nutrition

Malnutrition in pregnant women can also trigger recurrent aphthous stomatitis (SAR). The relationship between stress as a predisposing factor for recurrent aphthous stomatitis (SAR) and its influence on the duration of SAR.

Another oral manifestation is angular cheilitis, predisposing factors are poor dental and oral hygiene and nutritional deficiencies in the form of vitamin B.¹⁸

2.5. Pathological Lesions of the Oral Cavity in Pregnant Women

The lesion is an autoimmune disease that can affect the oral mucosa and skin of organs or is a side effect of long-term corticosteroid treatment. Oral soft tissue lesions

are also known as abnormal changes in the surface or loss of surface integrity of the oral mucosa.¹⁹

This lesion is characterized by damage to the epithelium and lamina propria of the mucosa. Lesions are the body's error in recognizing its own cells as antigens, so that the immune system which is designed to protect the body is no longer normal because it cannot differentiate between foreign objects that must be destroyed and the body's own tissue which is useful for survival.²⁰

These lesions can affect daily life, especially in pregnant women. Lesions in the oral cavity can occur due to changes in metabolism and body immunity as well as hormonal changes related to pregnancy. In the early stages of pregnancy, pregnant women usually experience fatigue, nausea and vomiting. This is what causes an increase in plaque due to laziness in maintaining oral hygiene and accelerates tooth decay which causes various oral diseases including:

2.5.1. Epulis Gravidarum

Hormonal changes and oral hygiene problems during pregnancy are one of the factors that cause the formation of epulis gravidarum and can also be due to the accumulation of plaque and debris as well. These lesions usually appear in the second or third trimester of pregnancy and during pregnancy there is an increase in the hormones estrogen and progesterone in the blood and saliva.

This lesion is usually a benign, painless, pink, red to purple mass that usually stems and then spreads to the gums. These lesions can grow rapidly at the end of the first trimester and increase in size as the pregnancy progresses.²¹

2.5.2. Gingivitis

Gingivitis during pregnancy caused by increased levels of the hormones estrogen and progesterone in the blood. Hormonal changes accompanied by changes in blood vessels cause gingival sensitivity, such as plaque and calculus which causes gingivitis. This condition is characterized by interdental spaces that are red, swollen and bleed easily accompanied by pain with the hormone progesterone having a greater influence on the inflammatory process.²²

The cause of gingivitis in pregnant women is due to the influence of the hormones estrogen and progesterone which cause nausea during pregnancy, usually occurring in the second and third trimesters depending on the amount of hormones present during pregnancy.²³

2.5.3. Gingivitis Gravidarum

Gingivitis gravidarum is a pathological process that occurs during pregnancy in the tissue supporting the teeth, where the gums protrude causing discomfort due to an increase in the hormones estrogen and progesterone.

Enlarged gingiva will cause discomfort when speaking and chewing, can cause bad breath and affect aesthetics.²⁴

Clinical symptoms of gingivitis during pregnancy are gums that are painless, red, soft, bleed easily, protruding gums often occur in the interdental area, causing the gingiva to become red and swollen. The increase in gingivitis during pregnancy usually begins in the first to third trimesters, but the greatest increase occurs in the second trimester and subsides three months after giving birth.

Predisposing factors for gingivitis during pregnancy include primary and secondary factors. Primary factors can be caused by local irritation such as plaque or calculus buildup or functional such as malocclusion and poor tooth position. Meanwhile,

secondary factors can be caused by the effects of drugs, hormonal, psychological and metabolic diseases.

2.5.4. Recurrent Aphthous Stomatitis (SAR)

Recurrent Aphthous Stomatitis (SAR) is an inflammatory lesion that occurs on the oral mucosa that affects the cheeks, gums, tongue, lips and palate or floor of the mouth. This disease is characterized by oval or round ulcers.

Manifestations of SAR disease range from mild to severe, disrupting the process of chewing food, swallowing and speaking. Predisposing factors for its occurrence SARs such as stress, hormonal changes, viral infections and local trauma.²⁵

2.5.5. Angular Cheilitis

Another oral manifestation that occurs in pregnant women is angular cheilitis, the predisposing factors of which include poor dental and oral hygiene, nutritional deficiencies, and candida albicans infection.

Angular cheilitis is a lesion characterized by fissures at the corners of the mouth, redness, itching and dryness.¹⁸

2.6. Factors Influencing the Appearance of Pathological Lesions in Pregnant Women

The appearance of pathological lesions in the oral cavity of pregnant women does not rule out the possibility that it will have an impact on the fetus. This is due to a lack of awareness and knowledge of pregnant women about the importance of maintaining oral hygiene.⁹ There are several factors that cause oral cavity abnormalities as follows:

2.6.1. Psychological (Stress)

One of the reasons pregnant women pay less attention to the cleanliness and health of their oral cavity is the nausea and vomiting reflex during pregnancy. The gag reflex

is also associated with stressful situations during pregnancy. Increased stress in pregnant women causes changes in eating, which can also trigger oral manifestations in the form of geographic tongue.¹⁵

Stress can cause the release of the hormone cortisol which can increase stomach acid secretion and inhibit the production of prostaglandins which protect the stomach lining. Stomach acid can move into the esophagus which can cause the esophageal sphincter to relax and cause a gag reflex.

The composition and flow of saliva in the oral cavity can be disturbed by changes in steroid hormone levels that occur during pregnancy. A reduced amount of saliva in the oral cavity is also one of the factors that can trigger the appearance of coated tongue.

2.6.2. Lifestyle

Poor food choices and the influence of modern lifestyles have caused a change in food consumption from high fiber foods to low fiber foods such as bread and biscuits which usually cause dental problems.

This is possible because of the opinion of mothers who do not agree with dental and oral health checks because they think their teeth and mouth are good and there are no problems, so mothers do not want to go to the dental clinic.²⁷

2.6.3. Environment

Acceptance or rejection of a dental and oral examination at a dental clinic can be caused by environmental influences, for example parents, siblings or other people who are considered influential. Health checks when the mother's environment provides stimulation to complete exploration, the mother is respectful.

However, on the other hand, if the mother's environment does not encourage her to control her teeth and mouth, then she acts on what she receives.²⁹ Other environmental

factors include an unclean living environment, such as cloudy water, poor food processing and an unclean environment.²⁸

2.6.4. Hypertension

In general, bacteria in the gums tend to cause diabetes and hypertension. Pregnant women with uncontrolled hypertension are at higher risk of bleeding after tooth extraction, this is related to the anesthesia used often containing vasoconstrictors which constrict blood vessels so that blood pressure rises. This can cause small blood vessels to burst and bleed. Therefore, blood pressure should be checked before undergoing dental treatment.³⁰

2.6.5 Education

The behavior of pregnant women is closely related to the level of knowledge of pregnant women regarding dental and oral health. Lack of knowledge about dental health and ignorance of the dangers of dental disease caused by low levels of education will cause pregnant women not to utilize existing dental health services. So it will contribute to poor dental health status.

2.6.6 Socio-Economic

Socio-economic conditions also do not rule out the possibility of pathological lesions of the oral cavity in pregnant women. Socio-economic status can be a determining factor in a healthy pregnancy process. Low socio-economic status, including education, employment and income, is a problem that influences K4 visits for pregnant women in Indonesia. This incident carries a serious risk of death in the mother in labor because at the fourth visit pregnant women often experience disruption of the body's defense mechanisms.