

## Profile Of Oral Diseases In Dental Hospital Faculty Of Dentistry Universitas Trisakti 2013-2022

Firstine Kelsi Hartanto\*, Dika Andiana Sari Gunawan\*\*, Rahmi Amtha\*\*\*

\* Faculty of dentistry, Department of Oral Medicine, Universitas Trisakti, Indonesia

\*\* Faculty of dentistry, Dentistry undergraduate study program, Universitas Trisakti, Indonesia

\*\*\* Faculty of dentistry, Department of Oral Medicine, Universitas Trisakti, Indonesia

Correspondence: [firstine@trisakti.ac.id](mailto:firstine@trisakti.ac.id)

Received 1 February 2024; 1<sup>st</sup> revision 28 March 2025; 2<sup>nd</sup> revision 10 April 2025; Accepted 30 April 2025; Published online 30 April 2025

### Keywords:

Oral disease profile, age, gender, systemic disease

### ABSTRACT

**Background:** Oral health remains a significant concern to date. According to the Riskesdas 2018, the prevalence of oral diseases in Indonesia is high, reaching 57.6%, with 8.2% of cases involving oral mucosal lesions. However, there is a lack of research on the profile of oral diseases, including lesions and oral health conditions, over the past 10 years at the Dental Hospital Faculty of Dentistry Universitas Trisakti.

**Method:** This is a descriptive observational study with consecutive sampling method using secondary data from medical records (unlinked data).

**Result:** A total of 3,266 cases of oral disease were found Dental Hospital Faculty of Dentistry Universitas Trisakti in the period 2013-2022 with a total of 105 types of oral diseases. Oral diseases were mostly found in females (63.68%) in the age group of 15-24 years (28.44%) and from all over Indonesia region, mostly from West Jakarta (8.78%). Most patients had hypertension (3.48%). There was normal variant (45.19%), non-infectious lesion (35.6%), candida infection and related lesion (13.50%), virus infection (5.17%), Oral Potentially Malignant Disease and Oral Squamous Cell Carcinoma (1.74%), halitosis (0.24%), lesions associated systemic diseases (2.54%), and lesions related to psychological condition (1.16%).

**Conclusion:** In 2013-2022 the oral diseases in the Dental Hospital Faculty of Dentistry Universitas Trisakti were varied with the highest amount found in the 2017. The most found were Aphthous Stomatitis (21.92%), Angular Cheilitis (5.20%), Oral Lichen Planus (0.82%), Oral Squamous Cell Carcinoma (0.52%), Cancerphobia (0.45%), and Aphthous-like ulcer (0.39%).

Copyright ©2025 National Research and Innovation Agency. This is an open access article under the CC BY-SA license (<https://creativecommons.org/licenses/by-sa/4.0/>).

doi: <http://dx.doi.org/10.30659/odj.12.83-96>

2460-4119 / 2354-5992 ©2025 National Research and Innovation Agency

This is an open access article under the CC BY-SA license (<https://creativecommons.org/licenses/by-sa/4.0/>)

Odonto : Dental Journal accredited as Sinta 3 Journal (<https://sinta.kemdikbud.go.id/journals/profile/3200>)

How to Cite: Hartanto *et al.* Profile Of Oral Diseases In Dental Hospital Faculty Of Dentistry Universitas Trisakti 2013-2022. Odonto: Dental Journal, v.12, n.1, p.83-96, April 2025

## INTRODUCTION

The oral cavity is a part of the body that requires attention to maintain its health. However, in the community, dental and oral health is still an issue that must be considered.<sup>1</sup> *The World Health Organization* (WHO) estimates that globally nearly 3.5 billion people (about 50% of the population) have one form of oral disease.<sup>2</sup>

A few literature reported, the percentage of oral lesions in different countries and regions in the general population ranges from 4.9% to 64.7%.<sup>3-5</sup> In China, the overall prevalence of oral mucosal lesions in the country was 10.8%.<sup>4</sup> In addition, the prevalence of oral mucosal lesions in the general population in Malaysia and Turkey was reported at 9.7% and 15.5%.<sup>6,7</sup> According to Riskesdas in 2018, the prevalence rate of dental and oral diseases in Indonesia is high, which is 57.6% with a percentage of oral mucosal lesions of 8.2%.<sup>8</sup>

The purpose of this study was to determine the profile of oral disease in patients of Dental Hospital Faculty of Dentistry Universitas Trisakti within a period of 10 years (2013-2022).

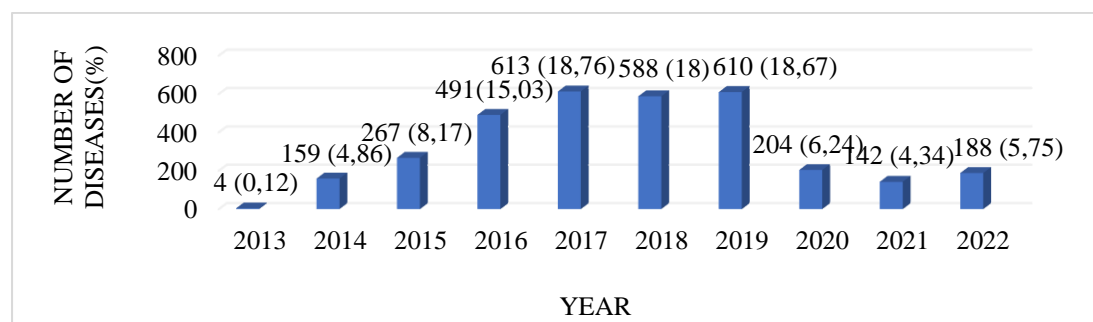
## RESEARCH METHOD

This is an observational descriptive study with *consecutive sampling* techniques, include secondary data from the medical records of patients who came to the Oral Medicine Clinic of Dental Hospital (academic and specialist) Faculty of Dentistry Universitas Trisakti in 2013-2022. The inclusion criteria in this study are non-electronic and electronic medical records at Dental Hospital Faculty of Dentistry Universitas Trisakti from 2013 to 2022 from the Oral Disease Clinic. Meanwhile, medical records that are not signed by the Doctor in Charge of Services oral disease are not included.

Data obtained from medical records include age, gender, address, systemic disease, medication consumed, and diagnosis of the patient's oral disease. The collected data is presented descriptively. This research has obtained research ethics approval from the Ethics Commission of the Faculty of Dentistry, Universitas Trisakti with number 709/S1/KEPK/FKG/8/2023.

## RESULT

In this study, there were 2,528 medical records that met the inclusion criteria. The number of oral disease cases recorded within 10 years (2013-2022), which was 3,266 cases. There appears to be an increase every year from 2013 to 2019. The highest number of cases was found in 2017 (18.76%). (Figure 1).



**Figure 1. Number of oral disease cases at RSGM-P FKG Trisakti University in 2013-2022**

This study reported there were 104 types of oral diseases were classified into lesions caused by infection (13.50%), non-infectious lesions (35.60%), normal variant (45.19%), OPMD and oral cancer (1.74%), halitosis (0.24%), lesions related to systemic disease (2.54%), and diseases associated with psychological condition (1.16%). (Table 1)

**Table 1. Types and Frequency of Lesions Found**

Classification	Lesions/abnormalities	n	%
<b>Infectious lesions</b>		<b>441</b>	<b>13,50</b>
Viral Infectious Lesions	Herpes Labialis	135	4,13
	Herpes Associated with Erythema Multiforme	11	0,33
	Primary Herpes Gingivostomatitis	8	0,24
	Herphetic Stomatitis	4	0,12
	Herpes Zoster/Shingles	3	0,09
	Papillomas	3	0,09
	Herpangina	2	0,06
	Secondary Herpes Gingivostomatitis	1	0,03
	Mononucleosis Infection	1	0,03
	Hairy Leukoplakia	1	0,03
	Total	169	5,17
Candida Infectious Lesions	Cheilitis Angularis	170	5,20
	Chronic Atrophic Candidiasis	65	1,99
	Acute Pseudomembranous Candidiasis	23	0,70
	Hairy Tongue	9	0,27
	Median Rhomboid Glossitis	2	0,06
	Chronic Hyperplastic Candidiasis	1	0,03
	Total	270	8,26
Bacterial Infectious Lesions	Necrotizing Ulcerative Stomatitis	2	0,06
<b>Non-infectious lesions</b>		<b>1.163</b>	<b>35,60</b>
	Recurrent Aphthous Stomatitis	716	21,92
	Traumatic Ulcer/Aphthous Stomatitis	247	7,56
	Exfoliative Cheilitis	45	1,37
	Frictional Keratosis	29	0,88
	Chemical Burn	24	0,73
	Decubital Ulcer	23	0,70
	Thermal Burn	16	0,48
	Nicotine Stomatitis	9	0,27
	Fibroma	7	0,21

Classification	Lesions/abnormalities	n	%
	Eosinophilic Ulcers	7	0,21
	Herpetiform Recurrent Aphthous Stomatitis	6	0,18
	Mucocele	5	0,15
	Epulis Fissuratum	4	0,12
	Petechiae	4	0,12
	Melanotic Macula	3	0,09
	Papillitis	3	0,09
	Amalgam Tattoos	3	0,09
	Bethel Chewer's Mucosa	2	0,06
	Pyogenic Granuloma	2	0,06
	Cheilosis	1	0,03
	Flabby Ridge	1	0,03
	Fibroepithelial Polyp	1	0,03
	Hemangioma	1	0,03
	Neurofibroma	1	0,03
	Nevus Pigmentosus	1	0,03
	Calcifying Fibroblastic Granuloma	1	0,03
	Oral Lymphangioma	1	0,03
<b>Normal Variant</b>		<b>1.476</b>	<b>45,19</b>
	Physiological Pigmentation	220	6,73
	Fissured Tongue	207	6,33
	Torus Palatinus	182	5,57
	Linea Alba Buccalis	149	4,56
	Smoker's Melanosis	143	4,37
	Geographic Tongue	130	3,98
	Fordyce's Spot	110	3,36
	Crenated Tongue	76	2,32
	Sublingual Varices	47	1,43
	Torus Mandibularis	46	1,40
	Ductus Stensen Prominent	29	0,88
	Leukoedema	28	0,85
	Coated Tongue	25	0,76
	Exostosis	21	0,64
	Prominent Foliate papillae	16	0,48
	Prominent Circumvallate papillae	15	0,45
	Morsicatio Buccarum	13	0,39
	Ankyloglossia	8	0,24
	Lateral Lingual Tonsils	5	0,15
	Macroglossia	3	0,09
	Double Frenum	1	0,03

Classification	Lesions/abnormalities	n	%
	Prominent Fungiform papillae	1	0,03
	Prominent Fusiform papillae	1	0,03
<b>OPMD/Oral Cancer lesions</b>		<b>57</b>	<b>1,74</b>
OPMD lesions	Oral Lichen Planus	27	0,82
	Leukoplakia	7	0,21
	Actinic Cheilitis	3	0,09
	Erythroleukoplakia	1	0,03
	Smoker's Keratosis	1	0,03
Oral Cancer Lesions	Squamous Cell Carcinoma	17	0,52
	Adenoid Cystic Carcinoma	1	0,03
<b>Halitosis</b>		<b>8</b>	<b>0,24</b>
	True Halitosis	7	0,21
	Pseudohalitosis	1	0,03
<b>Associated Systemic Disease</b>		<b>83</b>	<b>2,54</b>
Autoimmune	Apthous Like Ulcer	13	0,39
	Systemic Lupus Erythematosus	1	0,03
	Vitiligo	1	0,03
	Systemic Sclerosis	1	0,03
	Pemphigus Vulgaris	1	0,03
	Pemphigoid Mucous Membrane	1	0,03
Syphilis	Oral Chancre	1	0,03
HIV	Oral Candidiasis Associated with HIV	1	0,03
Tuberculosis	TB ulcer	1	0,03
Anemia	Glossitis	3	0,09
Thalassemia Major	Eosinophilic Ulcer Associated with Thalassemia Major	1	0,03
Allergy	Allergic/Contact Cheilitis	20	0,61
	Erythema Multiforme	10	0,30
	Allergic Stomatitis	10	0,30
	Stomatitis Venenata	5	0,15
	Angioedema	4	0,12
	Lichenoid Reaction	4	0,12
	Angina Bullosa Hemorrhagic	1	0,03
	Medical Stomatitis	1	0,03
Effects of cancer treatment	Osteoradionecrosis	1	0,03
Nerve	Glossopharyngeal Neuralgia	1	0,03
	Neuropathic Idiopathic Peripherals	1	0,03

Classification	Lesions/abnormalities	n	%
<b>Psychological</b>		<b>38</b>	<b>1,16</b>
	Cancerphobia	15	0,45
	Xerostomia	11	0,33
	Burning Mouth Syndrome	11	0,33
	Halitophobia	1	0,03
<b>Total Oral Disease</b>		<b>3.266</b>	<b>100</b>

Based on data obtained in medical records, oral disease patients who come to Dental Hospital Faculty of Dentistry Universitas Trisakti come from various regions in Indonesia with the majority coming from West Jakarta (8.78%). The distribution of oral diseases by region can be seen in table 2.

**Table 2. Distribution of Oral Disease by Region**

Region	n	%
West Jakarta	222	8,78
North Jakarta	36	1,42
Central Jakarta	24	0,94
Tangerang	20	0,79
Batam	19	0,75
South Jakarta	17	0,67
East Jakarta	10	0,39
Bekasi	9	0,35
Lampung	6	0,23
Bandung	4	0,15
Depok	3	0,11
Cirebon	3	0,11
Central Java	3	0,11
Riau	2	0,07
South Sumatra	2	0,07
Ambon	1	0,03
Bogor	1	0,03
East Java	1	0,03
West Kalimantan	1	0,03
Maluku	1	0,03
Sukabumi	1	0,03
Central Sulawesi	1	0,03
North Sumatra	1	0,03
Unknown	2.140	84,65

Region	<i>n</i>	%
--------	----------	---

Most of the patients who came were female (63.68%) compared to men (36.31%), with an average age of 34.44 years (16.26). The sociodemographic picture of the research sample can be observed in table 3.

**Table 3. Sociodemographics Research Sample**

Characteristic	<i>n</i> (%)	<i>mean</i> ±SD
<b>Gender</b>		
Woman	1.610 (63,68)	
Man	918 (36,31)	
<b>Age</b>		
		<b>34.44 ± 16.26</b>
3-4	5 (0,19)	
5-9	75 (2,96)	
10-14	119 (4,70)	
15-24	719 (28,44)	
25-34	501 (19,81)	
35-44	397 (15,70)	
45-54	385 (15,22)	
55-64	206 (8,14)	
65+	121 (4,78)	

As many as 12.26% of oral disease patients are also accompanied by systemic diseases. The most common disease suffered by patients is hypertension (3.48%). Likewise, the majority of drugs consumed by patients in this study were antihypertensive drugs (2.41%). A picture of systemic diseases and drugs taken by patients can be seen in table 4.

**Table 4. Systemic Diseases and Drugs Consumed Patient**

Characteristic	<i>n</i> (%)
<b>Systemic Diseases</b>	
Hypertension	88 (3,48)
Gastritis	62 (2,45)
Diabetes Mellitus	32 (1,26)
Allergy	26 (1,02)
Cholesterol	20 (0,79)
Asthma	15 (0,59)
Anemia	11 (0,43)

Characteristic	n (%)
Hypotension	8 (0,31)
Heart Disease	8 (0,31)
Tuberculosis (TB)	7 (0,27)
Lung Disease	5 (0,19)
Autoimmune	5 (0,19)
Gout	5 (0,19)
Human Immunodeficiency Virus (HIV)	3 (0,11)
Hepatitis	3 (0,11)
Kidney Disease	2 (0,07)
Hyper- aggregation	2 (0,07)
Hyperthyroidism	1 (0,03)
Epilepsy	1 (0,03)
Syphilis	1 (0,03)
Thalassemia Major	1 (0,03)
Sjogren Syndrome	1 (0,03)
Systemic Sclerosis	1 (0,03)
Schizophrenia	1 (0,03)
Blood Clotting	1 (0,03)
Unknown	2.218 (87,73)
<b>Medicines</b>	
Anti-Hypertensive	61 (2,41)
Anti-Diabetic	18 (0,71)
Heart Medicine	8 (0,31)
Anti-Cholesterol	8 (0,31)
Antibiotic	5 (0,19)
Vitamin	4 (0,15)
Anti-Convulsant	3 (0,11)
Anti-Inflammatory	2 (0,07)
Thyroid Medication	2 (0,07)
Iron Overload Therapy	1 (0,03)
Anti-Psychosis	1 (0,03)
Anti-Muscarinic	1 (0,03)
Anti-spasmodic	1 (0,03)
Unknown	2.413 (95,45)

## DISCUSSION

The number of oral disease cases at Dental Hospital Faculty of Dentistry Universitas Trisakti

Odonto : Dental Journal. Volume 12. Number 1. April 2025



within 10 years, namely 3,266 cases with the highest cases in 2017 (18.76%) and the lowest in 2013. The low frequency is because medical records in that year have been destroyed. According to PERMENKES 269/2008 regarding medical records, medical records with an age of 5 years since the last visit can be destroyed.

In 2013-2022, there were 3,266 cases of oral disease at Dental Hospital Faculty of Dentistry Universitas Trisakti with an increase of approximately 84 cases per year in 2013-2019. The increase in the number of oral disease cases is in line with the increasing public trust in the Dental Hospital Faculty of Dentistry Universitas Trisakti and the quality of the performance of their Oral Medicine Specialists. However, there was a drastic decline in 2020-2022 due to the emergence of the COVID-19 pandemic which caused the Large-Scale Social Restrictions (LSSR) policy to the Implementation of Community Activity Restrictions (ICAR). In that year, *teledentistry* emerged which is a service, consultation, or remote dental health care through information technology media.<sup>9</sup> According to Amtha et al., as many as 93.6% of dental patients show a high level of satisfaction in using *teledentistry* services, so that this method can be a solution during a pandemic.<sup>10</sup>

This study showed that infectious lesions were found as a whole, which was 13.50%. This is higher when compared to studies conducted in Iran (9.47%) and Nepal (4.25%).<sup>11,12</sup> Candida infection is the highest disease (8.26%), with Cheilitis Angularis ranking first in this classification (5.20%). This figure is higher when compared to a Malaysian study that reported Cheilitis Angularis as much as 0.7-3.8% in adults and 0.2-15.1% in children.<sup>13</sup> Cheilitis Angularis in dental hospital affects many children with the bad habit of licking lips. Meanwhile, in adults various factors can occur, such as a decrease in vertical dimensions (VD) and association with certain nutritional deficiencies can trigger the occurrence of the condition. Cheilitis Angularis occur when prolonged exposure to saliva induces dermatitis and eczematous contact reactions in the commissures of the lips. The damaged integrity of the stratum corneum epithelium can lead to the invasion of infectious organisms into tissues, such as *Candida albicans*, causing cheilitis angularis.<sup>14,15</sup>

The second highest lesion in the infection classification is herpes infection, with Herpes Labialis coming in first (4.13%). The occurrence of Herpes Labialis is often associated with stress factors. This is in line with the number of lesions found in the age group of 15-24 years in this study, where the age group is included in the age group of students / students who experience a lot of stress due to assignments or exam preparation

In the classification of non-infectious lesions, Recurrent Aphthous Stomatitis (RAS) ranks first (29.48%). This is higher than the results of research in the United States and the United Kingdom (20%) and Riskesdas in 2018, which was 8.0%.<sup>8,16</sup> This study also found that RAS is more experienced by women (49.21%) compared to men (37.37%). This result in accordance with Riskesdas in 2018, research conducted by Sulistiani et al. and Queiroz et al.<sup>8,17,18</sup>

The cause of RAS in women is often associated with hormonal changes during puberty or menstruation. Recurrent Aphthous Stomatitis can occur due to a decrease in the hormone progesterone during the menstrual cycle. Decreased levels of the hormone progesterone can cause increased vascular permeability. This results in thinning of the mucosa which facilitates bacterial invasion and causes irritation of the oral cavity, causing Recurrent Aphthous Stomatitis.<sup>19</sup>

RAS was observed in many women in this investigation, as well as in people aged 15 to 24

(52.86%). This is consistent with the results described by Sulistiani et al. which reported that RAS mostly occurs in the age group of 20-24 years (54%) and the age group of 15-19 years (27%).<sup>17</sup> This occurs because at that age, patients are classified as teen, with the majority of patients being students. The number of students affected by Recurrent Aphthous Stomatitis is often associated with stress which is one of the predisposing factors for the occurrence of abnormalities / lesions.<sup>17</sup> Physiologically, stress stimulates two main systems, namely the sympathetic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis. Activation of the HPA axis will cause cortisol secretion. Cortisol is a stress hormone secreted by the adrenal cortex. The hormone cortisol regulates several important functions, such as regulating carbohydrate, protein, and fat metabolism, and regulating blood cell count.<sup>20</sup> A persistent increase in cortisol levels under stressful conditions can cause immune deficiency and increase inflammatory activity, which can trigger RAS.<sup>21</sup>

In the classification of normal variant, the percentage obtained in this study was 45.19%. The results of this study are fairly high when compared to research conducted by Oivio et al in Finland which reported that the percentage of normal variation lesions was found, which was 18.2%.<sup>22</sup> The high percentage of normal variant in this study was associated with Dental Hospital Faculty of Dentistry Universitas Trisakti which is a teaching hospital, where normal variation lesions are one of the cases that are a requirement for co-ass in fulfilling their duties. The top three normal variation lesions found in this study were Physiological Pigmentation, *Fissured Tongue*, and *Torus Palatinus*.

In addition, in the non-infectious classification, the frequency of occurrence of *Smoker's Melanosis* in this study was quite high, which was 4.37%. *Smoker's Melanosis* is associated with smoking. According to Riskesdas in 2018 the prevalence of child smokers aged 10-18 increased, with a percentage of 9.1%.<sup>8</sup> This is in accordance with this study, where the lesions were found in patients aged 15-24 years. This is also supported by research reported by Parmasari et al. that patients or patients who are active smokers have a link with lesions of *Smoker's Melanosis* (100%).<sup>23</sup> *Smoker's Melanosis* is caused by the effect of nicotine (polycyclic compound) on melanocytes located along the epithelial basal cells of the oral mucosal lining. Nicotine stimulates melanocytes to produce more melanosomes resulting in increased deposition of melanin pigment.<sup>24</sup>

This study showed the percentage of *Oral Potentially Malignant Disease* (OPMD) is 1.19%. This corresponds to the global prevalence of OPMD (1% and 5%).<sup>25</sup> Moreover, in India the incidence of head and neck area cancer accounts for 30-40% of all malignant tumors in India.<sup>26</sup> When compared to this study, the percentage resulting from oral cancer lesions was lower with a percentage of 0.55%. The most common type of OPMD is *Oral Lichen Planus lesions* (0.82%). This is in line with the global prevalence of *Oral Lichen Planus* results in an estimate of 0.89% for the general population.<sup>27</sup> *Oral Lichen Planus* in this study was mostly triggered by stress and medication. This is in accordance with the statement of the research of Krupaa et al. which states that the main etiological factor of *Oral Lichen Planus* lesions is stress.<sup>28</sup> The type of oral cancer in this study that often occurs from the type of Squamous Cell Carcinoma (SCC), this is in accordance with various studies that show that 90% of oral malignancies come from the type of SCC.

This study has been updated the data, that halitosis also reported with cases as much as 0.24% it is still far in comparison to the research conducted by Anbari et al. (22% - 50%).<sup>29</sup> In this study, halitosis was caused by problems in periodontal tissue and related to systemic. Halitosis in dental

patients is a common condition. Therefore, the implementation and strengthening of halitosis prevention and management protocols need to be carried out to meet health and social needs.

In the classification of lesions associated with systemic, a percentage of 2.54% was found. The majority of lesions found were related to hypersensitivity/allergic reactions where Allergic/Contact Cheilitis came first (0.61%). Allergic cheilitis is a common inflammation of the lips caused by a type IV hypersensitivity reaction after contact with an allergen.<sup>30</sup> The cause was mostly associated with contact of the oral mucosa with dentistry tools and lipstick.

This study found that as many as 1.16% of patients had lesions related to psychological conditions. These results are far different from the results reported by Suresh et al, who reported the percentage of anxiety-related oral illnesses at 20.86%.<sup>31</sup> Meanwhile, the percentage of oral diseases related to depression, which is 9.04%.<sup>31</sup> The low percentage in this study is due to data that is lost or has been destroyed.

Patients who come to Dental Hospital Faculty of Dentistry Universitas Trisakti come from various regions in Indonesia, ranging from Batam, Lampung, Central Java, Riau, South Sumatra, Maluku, East Java, West Kalimantan, Central Sulawesi and North Sumatra. This shows that many patients believe in the quality of performance of Oral Medicine Specialists at Dental Hospital Faculty of Dentistry Universitas Trisakti. In addition, the majority of patients who come to Dental Hospital Faculty of Dentistry Universitas Trisakti come from the West Jakarta area. This shows that many surrounding communities are aware and believe in the existence of Dental Hospital Faculty of Dentistry Universitas Trisakti as the only Dental Hospital in the West Jakarta area and most co-ass students are looking for patients around the West Jakarta area.

In this study, the percentage of patients who came and had oral disease was higher in women (63.68%) compared to men (36.31%), this is directly proportional to research conducted by Astriena at Dental Hospital Faculty of Dentistry Universitas Trisakti in 2014 which stated that patients who came and were diagnosed with oral disease were found in female patient with a percentage of 63.9%.<sup>32</sup> Similarly, studies in China and Lebanon reported that oral mucosal lesions were more common in women (53.5%) and (57.3%).<sup>4,33</sup> This is likely due to higher sensitivity to disease and high desire for treatment making the frequency of female patients who come higher than men.<sup>34</sup>

This study also found oral disease was mostly found in the age group of 15-24 years (28.44%). This is in line with previous research by Astriena in 2014 (30.6%).<sup>32</sup> The results of this study are not much different from studies in Lebanon (35.3%) and Turkey (12.4%).<sup>7,33</sup> This can be associated with the age of 15-24 years is a student or student who often experiences stress due to various problems, such as exams, demanding many assignments, or problems outside school / campus activities.<sup>35</sup> Chronic stress tends to contribute to the development of oral disease in two different ways. First, stress can motivate individuals to solve problems in unhealthy ways (smoking, drinking alcohol, and poor diet) leading to oral diseases. Second, chronic stress contributes to a high allostatic load which can lead to dysfunction of physiological systems that are important for homeostasis and affect the mechanisms underlying the development of oral disease.<sup>36</sup>

In this study, it was found that the majority of patients suffered from hypertension with a percentage of 3.48% and the use of antihypertensive drugs (2.41%) and the majority of patients aged 31 years and over. This is in accordance with the results of Riskesdas in 2018, where hypertension

occurs in the age group of 31-44 (31.6%), 45-54 years (45.3%), and 55-64 years (55.2%).<sup>8</sup> Similarly, various studies in the world report on the relationship of oral mucosal lesions with systemic diseases such as hypertension followed by the use of antihypertensive drugs.<sup>35</sup>

This study not only presents data on one or two types of oral diseases, but also all oral diseases found in Dental Hospital Faculty of Dentistry Universitas Trisakti within 10 years (2013-2022). This provide an advantage in this study.

However, when conducting the study, the author experienced limitations in data collection due to the large number of medical records from academic clinics that were not signed by Doctor in Charge of Service so that they could not be included in the data in this study. This has the potential to cause a shift in the number of oral diseases recorded at Dental Hospital Faculty of Dentistry Universitas Trisakti to be lower and difficulty knowing risk factors.

## CONCLUSION

The profile of oral diseases at Dental Hospital Faculty of Dentistry Universitas Trisakti within a period of 10 years (2017-2022) found 3,266 cases with the highest frequency in 2017. A total of 104 types of oral diseases were found in this study. Oral diseases are mostly found in women (63.68%) in the age group of 15-24 years (28.44%), originating from all over Indonesia, especially West Jakarta (8.78%). Hypertension is the most common systemic disease suffered by patients (3.48%). The diseases found were classified under candida infection-related lesions (13.50%), viral infections (5.17%), non-infectious lesions (35.6%), normal variation lesions (45.19%), *Oral Potentially Malignant Disease* and oral cancer (1.74%), halitosis (0.24%), lesions with systemic linkage (2.54%), and psychological state-related lesions (1.16%). The most common types of diseases found in each classification sequentially are Cheilitis Angularis (5.20%), Herpes Labialis (4.13%), Recurrent Aphthous Stomatitis (21.92%), Physiological Pigmentation (6.73%), *Oral Lichen Planus* (0.82%) and Squamous Cell Carcinoma (0.52%), *True Halitosis* (0.21 %), Allergic Cheilitis/Contact (0.61%) and Cancerphobia (0.45 %).

## ACKNOWLEDGEMENT

The authors acknowledge that Director of Dental Hospital Faculty of Dentistry Universitas Trisakti and the staff of Medical Record Department has been supported this research.

## REFERENCES

1. Apriasari ML, Sundah SA, Hamdani R. Prevalence of Oral Diseases at Ulin Hospital Banjarmasin in 2017-2019. ODONTO Dental Journal. 2022; 9:62–63. DOI : <http://dx.doi.org/10.30659/odj.9.1.62-72>
2. Jain N, Dutt U, Radenkov I, Jain S. WHO 's global oral health status report 2022: Actions, discussion and implementation. Oral Dis. 2023. DOI : <https://doi.org/10.1111/odi.14516>
3. Intapa C, Ayudhya C, Puangsombat A, Boonmoon B, Janyasurin T, Tonum U. Prevalence of oral mucosal lesions in geriatric patients living in lower Northern Thailand : a 10 years retrospective study. Jorنال of International Dental and Medical Research. 2017;10 (3):868–871. <https://api.semanticscholar.org/CorpusID:145815201>
4. Feng J, Zhou Z, Shen X, Wang Y, Shi L, Wang Y, et al. Prevalence and distribution of oral mucosal lesions: a cross-sectional study in Shanghai, China. J Oral Pathol Med. 2015; 44(7):490–494. DOI: <https://doi.org/10.1111/jop.12264>
5. Amadori F, Bardellini E, Conti G, Majorana A. Oral mucosal lesions in teenagers: a cross-sectional study. Ital J Pediatr. 2017; 43(1):50. DOI: <https://doi.org/10.1186%2Fs13052-017->

- [0367-7](#)
6. Ramli R, Tng Mohd Salleh TNK, Tham YW, Ghani N, Harun MH, Nik Mohd Alwi NA. Oral Mucosal Lesions in Kelantanese subpopulation: A One-Year Data Review. *Asian Journal of Medicine and Biomedicine*. 2021; 5(1):25–32. DOI: <https://doi.org/10.37231/ajmb.2021.5.1.390>
  7. Ozcelik K, Sevimli D, Ilhan N, Guven M. Dermographic Properties And Correlation of Oral Mucosa Lesions with Dermatological Preliminary Diagnosis. *ENT Updates*. 2020. DOI: <https://doi.org/10.32448/entupdates.825640>
  8. Riskesdas 2018. Riset Kesehatan Dasar, Badan Penelitian dan Pengembangan Kesehatan Departemen Kesehatan Republik Indonesia. Jakarta; 2018. <https://layanandata.kemkes.go.id/katalog-data/riskesdas/ketersediaan-data/riskesdas-2018>
  9. Khan SA, Omar H. Teledentistry in Practice: Literature Review. *Telemedicine and e-Health*. 2013; 19(7):565–567. DOI: <https://doi.org/10.1089/tmj.2012.0200>
  10. Amtha R, Gunardi I, Astoeti TE, Roeslan MO. Characteristic of Oral Medicine Patient Using Teledentistry during COVID-19 Pandemic. *ODONTO Dental Journal*. 2021; 8(1). DOI: <http://dx.doi.org/10.30659/odj.8.1.18-27>
  11. Haghighat S, Rezazadeh F. Prevalence of non-odontogenic infectious lesions of oral mucosa in a group of Iranian patients during 11 years: a cross sectional study. *Iran J Microbiol*. 2019;11(5):357–362. <https://pubmed.ncbi.nlm.nih.gov/32148664/>
  12. Gupta A, Shrestha P, Poudyal S, Kumar S, Lamichhane RS, Acharya SK, et al. Prevalence and Distribution of Oral Mucosal Lesions and Normal Variants among Nepalese Population. *Biomed Res Int*. 2023;1–11. DOI: <https://doi.org/10.1155/2023/9375084>
  13. Pandarathodiyl AK, Anil S, Vijayan SP. Angular Cheilitis - An Updated Overview of the Etiology, Diagnosis, and Management. *Int J Dent Oral Sci*. 2021;8(2):1433–1438. [https://www.researchgate.net/publication/349297921\\_Angular\\_Cheilitis\\_An\\_Updated\\_Overview\\_of\\_the\\_Etiology\\_Diagnosis\\_and\\_Management](https://www.researchgate.net/publication/349297921_Angular_Cheilitis_An_Updated_Overview_of_the_Etiology_Diagnosis_and_Management)
  14. Lugović-Mihic L, Pilipović K, Crnarić I, Šitum M, Duvančić T. Differential Diagnosis of Cheilitis - How to Classify Cheilitis? *Acta Clin Croat*. 2018;57(2):342–351. DOI: <https://doi.org/10.20471%2Facc.2018.57.02.16>
  15. Federico JR, Basehore BM, Zito PM. Angular Cheilitis. *National Library of Medicine*. 2023. <https://www.ncbi.nlm.nih.gov/books/NBK536929/>
  16. Patil S, Reddy SN, Maheshwari S, Khandelwal S, Shruthi D, Doni B. Prevalence of recurrent aphthous ulceration in the Indian Population. *J Clin Exp Dent*. 2014;6(1):36-40. DOI: <https://doi.org/10.4317%2Fjced.51227>
  17. Sulistiani A, Hernawati S, Mashartini A. Prevalensi dan Distribusi Penderita Stomatitis Aftosa Rekuren (SAR) di Klinik Penyakit Mulut RSGM FKG Universitas Jember pada Tahun 2014. *e-Jurnal Pustaka Kesehatan*. 2018;4(3). <https://jurnal.unej.ac.id/index.php/JPK/article/view/5749>
  18. Queiroz SIML, Silva MVA da, Medeiros AMC de, Oliveira PT de, Gurgel BC de V, Silveira ÉJD da. Recurrent aphthous ulceration: an epidemiological study of etiological factors, treatment and differential diagnosis. *An Bras Dermatol*. 2018;93(3):341–346. DOI: <https://doi.org/10.1590%2Fabd1806-4841.20186228>
  19. Balan U, Gonsalves N, Jose M, Girish K. Symptomatic Changes of Oral Mucosa during Normal Hormonal Turnover in Healthy Young Menstruating Women. *J Contemp Dent Pract*. 2012;13(2):178–181. <https://doi.org/10.5005/jp-journals-10024-1117>
  20. Madkour G, El Refaie I. Salivary Levels of  $\alpha$ -Amylase & Cortisol In Patients With Recurrent Aphthous Ulceration. *Egypt Dent J*. 2018; 64(3). DOI: <https://doi.org/10.21608/edj.2018.76816>
  21. Chiang CP, Yu-Fong Chang J, Wang YP, Wu YH, Wu YC, Sun A. Recurrent aphthous stomatitis – Etiology, serum autoantibodies, anemia, hematinic deficiencies, and management. *Journal of the Formosan Medical Association*. 2019. DOI: <https://doi.org/10.1016/j.jfma.2018.10.023>
  22. Oivio UM, Pesonen P, Ylipalosaari M, Kullaa A, Salo T. Prevalence of oral mucosal normal variations and lesions in a middle-aged population: a Northern Finland Birth Cohort 1966 study. *BMC Oral Health*. 2020;20(1):357. DOI: <https://doi.org/10.1186/s12903-020-01351-9>
  23. Parmasari WD, Willianti E, Theodora. Hubungan Jenis Perokok dengan Kejadian Smoker's Melanosis pada Laki-laki Suku Jawa di Sidoarjo. *Sinnun Maxillofacial Journal*. 2023;05(01):39–44. DOI: <https://doi.org/10.33096/smj.v5i01.107>
  24. Ferreira L, Vinson RP, Eisen Drore, James W, Taylor RS, Carpenter WM, et al. Smoker's Melanosis: Background, Pathophysiology, Epidemiology. *MedScape Reference*. 2015. <https://emedicine.medscape.com/article/1077501-overview?form=fpf#showall>
  25. Amarasinghe HK, Johnson NW, Lalloo R, Kumaraarachchi M, Warnakulasuriya S. Derivation and validation of a risk-factor model for detection of oral potentially malignant disorders in populations with high prevalence. *Br J Cancer*. 2010;103(3):303–9. DOI:

- <https://doi.org/10.1038/sj.bjc.6605778>
26. Shivakumar K, Raje V, Kadashetti V. Prevalence of oral potentially malignant disorders (OPMD) in adults of Western Maharashtra, India: A cross-sectional study. *J Cancer Res Ther.* 2022;18(9):239. DOI: [https://doi.org/10.4103/jcrt.jcrt\\_1444\\_20](https://doi.org/10.4103/jcrt.jcrt_1444_20)
  27. Li C, Tang X, Zheng X, Ge S, Wen H, Lin X, et al. Global Prevalence and Incidence Estimates of Oral Lichen Planus: A Systematic Review and Meta-analysis. *JAMA Dermatol.* 2020;156(2):172–181. DOI: <https://doi.org/10.1001%2Fjamadermatol.2019.3797>
  28. Krupaa RJ, Sankari SL, Masthan KMK, Rajesh E. Oral lichen planus: An overview. *J Pharm Bioallied Sci.* 2015;7(1):158–161. DOI: <https://doi.org/10.4103%2F0975-7406.155873>
  29. Anbari F, Ashouri Moghaddam A, Sabeti E, Khodabakhshi A. Halitosis: *Helicobacter pylori* or oral factors. *Helicobacter.* 2019;24(1). DOI: <https://doi.org/10.1111/hel.12556>
  30. Harijanti K, Santosa YS. Allergic Contact Cheilitis Due to Lipstick. *ODONTO Dental Journal.* 2016;3(2). DOI: <http://dx.doi.org/10.30659/odj.3.2.138-144>
  31. Suresh K V, Shenai P, Chatra L, Ronad YAA, Bilahari N, Pramod RC, et al. Oral mucosal diseases in anxiety and depression patients: Hospital based observational study from south India. *J Clin Exp Dent.* 2015;7(1). DOI: <https://doi.org/10.4317/jced.51764>
  32. Astriena PD. Distribusi Frekuensi Lesi Mukosa Mulut pada Pasien RSGM(P) Trisakti berdasarkan Klasifikasi Usia dan Jenis Kelamin. Thesis.Jakarta: Faculty of Dentistry, Universitas Trisakti; 2014.
  33. El Toun S, Cassia A, Bouchi N, Kassab I. Prevalence and Distribution of Oral Mucosal Lesions by Sex and Age Categories: A Retrospective Study of Patients Attending Lebanese School of Dentistry. *Int J Dent.* 2018; 1–6. DOI: <https://doi.org/10.1155/2018/4030134>
  34. Hamdani R, Pramitha SR. Gambaran Kasus Jaringan Lunak Rongga Mulut di Kota Banjarmasin Tahun 2017-2020. *Jurnal Kesehatan Masyarakat .* 2022;9(1):49–57. DOI: <http://dx.doi.org/10.31602/ann.v9i1.6498>
  35. Abdullah MJ. Prevalence of recurrent aphthous ulceration experience in patients attending Piramird dental speciality in Sulaimani City. *J Clin Exp Dent.* 2013;89–94. DOI: <https://doi.org/10.4317%2Fjced.51042>
  36. Verma P. Oral mucosal health and stress. *Journal of Oral Medicine, Oral Surgery, Oral Pathology and Oral Radiology.* 2022;8(3):108–109. DOI: <https://doi.org/10.18231/j.jooo.2022.023>