

FREQUENCY OF ORAL DISEASES AMONG DENTAL PATIENTS IN DENTAL SECTION SPH QUETTA

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ABSTRACT

Objective: The objective of current study was to evaluate the frequency of Oral diseases among Dental Patients in the department of Oral Medicine Dental Section Sandeman Provincial Hospital Quetta, Pakistan.

Materials and Methods: Study design was retrospective and data was collected from January 2015 to April 2016. A total of 3406 patients record were included in tis study.

Results: 51.3% reported patients were male and 48.7% were female. The age of the patients were ranged between 17-21 (n=1159, 34.9%) years, and second majority cases were having age ranged from 27–36 (n=879, 25.8%) and third majority cases were having age ranged from 37-46 (n=717, 21.1%) years. Gingivitis 89% was noted more prevalent disease in this study followed by fluorosis 4.8% periodontitis 0.7% aphous ulcers 0.6% and others like tobacco staining, carious teeth, BDRs and pulpitis 4.8%. Majority of cases reported in month of March and April 2015, 7.6% and 9.2% respectively.

Conclusion: The present study found Gingivitis, Fluorosis and Periodontitis are still the major Oral disease. The main reason behind this very high prevalence is lack of awareness in people regarding Oral health and lack of good Oral health facilities in Quetta Pakistan. Educating the people about preventive measures can reduce these diseases.

Keywords: Prevalence, Oral diseases, dental section

INTRODUCTION

The diseases occurs in oral cavity remain highly prevalent in 2010 affecting 3.9 billion people in rest of world. Dental caries in permanent dentitions was the most happening condition evaluated for the entire GBD (Global Burden of Disease) reported in 2010 with increased number of cases reported in all ages 35%. Severe periodontitis and untreated

caries in deciduous teeth were the 6th and 10th most prevalent conditions, affecting, respectively, 11% and 9% of the global population.¹ Bacteria present in mouth may infect the tissues surrounding teeth, which may cause inflammation around teeth and lead to periodontal disease. Periodontal diseases are mainly due to results of the infections and the inflammation of gums and bone that surround the teeth and support teeth it is called gingivitis when it is in early phase gums may become swollen and reddish in color and may sometimes bleed in most complicated form it is known as periodontitis. Gums may have got pulled away from tooth, bone may have

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got lost and teeth can get loose and weak or even may fall out. This type of disease is mainly seen in adult people. Periodontal diseases as well as tooth decay are two biggest problems that threaten dental health professionals. The warning signs and symptoms of periodontal diseases like bad breath and bad taste which may not go away, reddish and swollen gums, Tender and bleeding gums, pain in chewing, Loosening of teeth, Teeth sensitivity, If there is any change in structure of teeth when you bite. Certain number of factors that increase risk for having periodontal diseases like smoking habit, diabetes mellitus, Poor hygiene, Immuno-deficiencies diseases like AIDS, hypoadrenalism.²

Periodontal diseases are maybe developmental, traumatic, inflammatory, genetic or neoplastic origin. The term periodontal disorder usually gives concept to common inflammatory diseases like gingivitis and periodontitis which are caused from infective microflora in biofilm which forms next to teeth on daily routine. Gingivitis, the most form to the periodontal disease is very prevalent and can be reversed by simple, oral hygiene. Gingivitis usually affects 50 to 90% adults in whole world.³ Mouth is considered type of window to the health of body. Mouth can show signs about nutritional imbalance or general body infection. The Systemic disorders that affect the whole body, might first become visible due to mouth lesions or any oral problems.⁴ The aggressive periodontitis mainly begins in childhood and early adulthood and may affect small population. Some of studies also suggest that the periodontitis causing bacteria may enter the main blood stream by gum tissues and can affect heart or lungs or any other part of body. The bacteria of periodontitis may travel to heart by gum tissue and there may trigger inflammation cycle and also may contribute to narrow the artery and may lead to attack.⁵

Aphthous ulcers is a combination of diseases with entirely different causes not of single cause that is why this is referred as unknown cause disease also known as canker sore is single, pale or yellow colored ulcer with the red ring (outer) or may be cluster of such ulcers in mouth usually on cheeks, inside of lips or tongue.⁶ Aphthous ulcers can also have relation to low immune system because also related to cold and flu or hormonal changes in the body and low level vitamin B12 in the body or folic acid. Sodium lauryl sulphate is a type of detergent

used in dentistry, which may exacerbate the ulcer or may cause ulcer formation. Ulceration in oral cavity are mostly seen with AIDS or other immune compromised patients or neutropenia and some drugs can also lead formation of ulcers like nicorandil or NSAIDs or alendronate etc.⁷

Lichen planus is the chronic mucocutaneous disease of cell-mediated response (immune) of unknown origin. It may also be found with other body diseases having altered immunity due to disease like alopecia areata or ulcerative colitis or vitiligo, morphea dermatomyositis, myasthenia gravis and lichen sclerosis. The lesions usually develop on surfaces (flexure) of limbs also having eruption which are generalized also develops after one week or may be more having maximal spreading in 2 to 16 weeks of period, May also have Pruritus of different severity which depend on types of lesion or extent of involvement, May also have the oral lesion which may be symptoms less or burning or even painful. In chronic form of lichen planus may be involve in nails, mucous membrane, scalp and genital area. Many clinical types of lichen planus have been reported like atrophic lichen planus, hypertrophic lichen planus, Follicular lichen planus, Erosive or ulcerative lichen planus, Linear lichen planus, Annular lichen planus, Actinic lichen planus, Vesicular lichen planus, Lichen planus pigmentosus, Lichen planus pemphigoides. Diagnosis of lichen planus clinical presentation is enough but some investigations like biopsy and direct immunofluorescence study reveals globular deposits of IgM and complement mixed with apoptotic keratinocytes. For treatment concern the lichen planus is a self-limited disease or remission. But in Mild cases can be treated with anti-inflammatory drugs like NSAID or topical or systemic steroids. More severe cases, which involve the different body areas like scalp, nail, and mucous membrane may necessitate more intensive therapy. Lichen planus of the oral mucosa topical steroids, topical calcineurin inhibitors may be helpful for minimizing the symptoms.⁸ poor oral hygiene may produce periodontal problem like bleeding gums, periodontal pocketing and bad smell. Bad breath may get complicated or worsen when unhygienic food taken and also due to bad life habits. There are many other illness or diseases that may cause bad breath problem such as respiratory infections and pneumonia and sinus infections (chronic) and

postnasal drip or diabetes or liver or kidney diseases.

OBJECTIVE

The purpose of this study was to check the Characterization of different Oral diseases among patients attended Dental Section Sandeman provisional Hospital Quetta.

MATERIALS AND METHODS

Study design was retrospective and data was collected from Oral diagnostic Department of Dental Section Sandeman Provincial Hospital Quetta. The data was for 16 months period that's is from January 2015 to April 2016. Study Approval was taken from Head of Dental Section Sandeman Provisional Hospital Quetta for the collection of data. For inclusion criteria all patients attended Dental section of Civil Sandeman provisional hospital Quetta were included in this study having any sort of dental diseases. Age limit was kept from 7 years to 96 years. For exclusion criteria any patient data that was incomplete or not suitable were excluded from study and the patients reported who were given treatment option as Scaling were excluded from study. Data in this study was analyzed using software IBM SPSS Statistics version 20.0. To study population, the descriptive statistics are used. Age group and disease cross tabulation performed along with Chi Square Test. P value ≤ 0.05 was taken as significant.

RESULTS

DEMOGRAPHIC

Demographic characteristics are described in table No 1. Majority of respondents, (n=1159, 34.9%), were having age ranges between 17 – 26 years and second majority cases were having age ranges between 27 – 36 (n=879, 25.8%) and third majority cases were having age ranges between 37-46 (n=717, 21.1%). Majority of the reported diseases are Gingivitis, (n=3051, 89.6%). Majority reported patients were having gender Male, (n= 1746, 51.3%), and female were reported, (n=1660, 48.7%). Majority of cases reported in month of April 2015 (n=313, 9.2%) and in March 2015 (n= 260, 7.6%) respectively.

AGE GROUP AND DISEASE CROSS TABULATION

Among age group 57 – 66 majority of disease was Gingivitis, (n=85, 95.5%), Among age group 27 – 36 majority of Condition was Gingivitis (n=815, 92.7%), Among age group 37 – 47 majority of Condition was Gingivitis (n=673, 93.8%), Among age group 27 – 36 majority of Condition was Gingivitis (n=815,92.7%) and Among age group 27–36 majority of Condition was Gingivitis (n=1009, 87.0%). Reported Males were having Major condition of Gingivitis (n= 1567, 89.7%) and reported Females Were

Table 1: Demographic Characteristics

Description	Frequency	Percentage
Age Group		
07-16	306	9.0
17-26	1159	34.0
27-36	879	25.8
37-46	717	21.1
47-56	249	7.3
57-66	89	2.6
67-76	6	0.2
87-96	1	.0
Diseases		
Gingivitis	3051	89.6
Periodontitis	25	0.7
Fluorosis	148	4.3
Others	163	4.8

Apthous Ulcers	19	0.6
Gender		
Male	1746	51.3
Female	1660	48.7
Duration or time span		
January 2015	235	6.9
February 2015	335	9.8
March 2015	260	7.6
April 2015	313	9.2
May 2015	173	5.1
June 2015	152	4.5
July 2015	159	4.7
August 2015	173	5.1
September 2015	212	6.2
October 2015	190	5.6
November 2015	164	4.8
December 2015	198	5.8
January 2016	187	5.5
February 2016	229	6.7
March 2016	200	5.9
April 2016	226	6.6

Table 2: Age Group Disease Cross Tabulation

DESCRIPTION	GINGIVITIS	PERIODON-TITIS	FLOUROSIS	OTHER	APHTHOUS ULCER	CHI SQUARE
Age Group						
07 – 16	244 (79.7%)	2(0.6%)	41(13.3%)	16(5.2%)	3 (0.9%)	0.001
17 – 26	1009(87.0%)	4(0.3%)	91 (7.85%)	46(3.9%)	9 (0.7%)	
27 - 36	815 (92.7%)	5 (0.56%)	8 (0.9%)	48(5.4%)	3 (0.3%)	
37 – 46	673 (93.8%)	8 (1.1%)	5 (0.6%)	27(3.7%)	4 (0.5%)	
47 – 56	221 (88.7%)	5 (2.0%)	2 (0.8%)	21(8.4%)	0 (0.0%)	
57 – 66	85 (95.5%)	1 (1.1%)	0(0.0%)	3 (3.3%)	0 (0.0%)	
67 – 76	3 (50.0%)	0(0.0%)	1 (16.6%)	2(33.3%)	0 (0.0%)	
77 – 96	1 (100.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	
Gender						
Male	1567 (89.7%)	11 (0.6%)	78 (4.4%)	79(4.5%)	11 (0.6%)	
Female	1484 (89.3%)	14 (0.8%)	70 (4.2%)	84(5.0%)	8 (0.4%)	

Having Major Condition of Gingivitis, (n=1484, 89.3%). Age group and disease cross tabulation performed along with chi square test, it is shown

that demographic characteristics are significantly associated (p=0.01). As shown in table 2.

DISCUSSION

The present study, which was done in Dental Section Sandeman Provincial Hospital Quetta Pakistan. The data shows that the gingivitis was the higher number of 89.6% as compare to the other study which was done on Jordanians people the overall prevalence of Gingivitis was 75.8%.¹⁰ Due to little bit established place for oral related health the results are still different due to not having proper oral health care facility in Quetta Pakistan. As per study confirmed by oral Health survey (national) stated that 69 % of total patients actually suffered from the disease gingivitis. The main reason behind this is people awareness about Gingivitis. The study was done in Arab country and result shows that 69% patients was having gingivitis.¹¹ This may be due to fact that the Arab country is more established for oral hygiene and more awareness regarding oral health is present there is marked difference of atmosphere or climate. According to the study done in Karachi city of Pakistan the overall found gingivitis was 80.7 % this may be due to reason that Karachi is more developed city as compare to Quetta and due to climate changes.¹²

The present study reveals that the prevalence of Gingivitis in male is 89.7% and in female is 89.3% and as per study done in Nepal concluded that 65.22 % male and 38.89% female was having the disease Gingivitis.¹³ There is major difference in studies the reason may be due lack of awareness and quality oral health care facilities availability at Quetta Pakistan. According to same Arab study the gingivitis was more common in female 75% as compare to men 64% may be due to climatic difference and awareness but according to present study there is no marked difference in gender for Gingivitis as prevalence.

According to present city the prevalence of Gingivitis in age group 27 – 36 years the gingivitis is 92.7% and according to CDC the prevalence of Gingivitis in US is 47.2% in adults of age 30.¹⁴ And in comparison there is marked difference and may exactly be due to US is developed country and people having good awareness about dental health as compare to Quetta city. As per present study the prevalence of gingivitis in age group 7 – 16 the prevalence of Gingivitis is 79.7 % and the study done in India on age group 5 – 14 years' school children results that 78.35% children was having gingivitis.¹⁵

Which is nearly same, as both of research studied places are not having proper health care facilities and their parents not having adequate knowledge regarding oral hygiene. Oral health is an important part of body also called a gateway of body mean good oral health will reflect a healthy body. No one can be truly healthy unless he or she is free from the burden of oral and craniofacial diseases and conditions.¹⁶ compromised oral health status, and uncontrolled oral disease can have a significant impact on quality of life. In united state a million of people are at high risk for oral health problems due to underlying systemic medical problems and handicap conditions, ranging from common chronic diseases like arthritis and uncontrolled diabetes mellitus.¹⁷ In the current study periodontitis (0.7%) was found much lower prevalence as compare to other oral diseases. A study done in Pakistan, Karachi showed 18.2% much higher as compare to current study.¹⁸ In a study done in Kathmandu University Teaching Hospital, Nepal, periodontitis diseases comprised 53% and 25% respectively.¹⁹ in present study periodontitis in male patients were 0.6%. A research work reported in German dental survey the percentage of periodontitis was 70.9% and common in male as compare to current study.²⁰

Fluorosis was reported in current study was 4.3%, another study reported in Quetta among the children's showed Dental fluorosis was recorded much higher prevalence 63.6% which is the disagreement of the current study. Moderate fluorosis was observed in 50.45% followed by mild fluorosis in 43.24%. Dental fluorosis among children may be due to high fluoridation in this community.²¹

In recent study suggests prevalence of apthous ulcers were 0.6%. Another study conducted in Pakistan showed much higher prevalence of apthous stomatitis 40%, which is contradicted the current study. Recurrent apthous stomatitis causes a lot of suffering and agony for patients throughout their life. Mostly ulceration is considered to be caused due to smoking, stress and spicy food. Another study suggests stress as a modifying factor rather than etiological factor. Cause is still unknown. Children may inherit ulcers from their parents. Young adults have higher levels of recurrent apthous stomatitis as compared to elderly population.²² Oral Diseases are a major public health problem owing to their higher occurrence and their effects on the individual's qual-

ity of life and may effect the general health status.²³

Oral diseases mostly chronic disease like ulceration, white lesions and immune associated lesions are important public health problems but also their impact on individuals and society and health structure to bear the expense of their treatment. In some countries, oral diseases are the fourth most expensive diseases to treat. Treating caries, estimated at US\$ 3513 per 1000 children, would exceed the total health budget for children of most low-income countries. The situation for adults in developing countries is worse, as they suffer from the accumulation of untreated oral diseases.²⁴

Oral cavity is the gateway of the body when oral cavities become health than body health automatically become healthy that's why oral health is the essential to general health and quality of life. It is very important that orofacial region a state of being free from periodontal diseases, neuralgia, moth and throat cancer, and dental caries that limit an individual's capacity for smiling, speaking and psychosocial wellbeing and despite great achievements in oral health of populations internationally and the issues are still remain in many societies all over the rest of world particularly among under developed and advanced countries. Periodontal diseases and dental caries have historically been considered the most important health problem locally and globally and become a health burden in future. Oral disease severity and distribution are vary among different region of the world and within the same country or region.²⁵ Disease burden in Pakistan is a combination of multiple factors and a wider prospective must be utilized to tackle the situation. Oral diseases such as periodontitis, dental caries and oral cancer are preventable if basic necessities are made available to the public along with an increase in regulation of services and accountability of health sector.²⁶

The prevalence of oral diseases is prevailing in this study, which is consistent with findings that the country is facing problem of oral diseases especially periodontal diseases in younger group that is evident from the epidemiological studies mentioned above. There is likelihood of increase of periodontal diseases, if proper program is not chalked out, to check the diseases either can be reduced by the educating the people about preventive measures or by curative means.

CONCLUSION

The overall prevalence of Gingivitis was 89.6% in Quetta, Pakistan as per this study and the main reason behind this very high prevalence is lack of awareness in people regarding oral health and lack of good oral health facilities in Quetta Pakistan. Good oral health status and its Improvements in general population may imply substantial economic benefits not only in terms of reduced treatment costs but also because of fewer productivity losses in the labor market.

RECOMMENDATION

After this entire study it is recommended that conscious efforts should be taken regarding Oral health including oral health awareness programs and also should provide proper care and good facilities regarding oral Health in Quetta Pakistan.

REFERENCES

1. Richards D. Oral diseases affect some 3.9 billion people. Evidence-based dentistry. 2013 Jun;14 (2):35.
2. Center of Disease Control. (2016, March 10, 2015). Periodontal disease Retrieved 02.09.2016, 2016, from http://www.cdc.gov/oralhealth/periodontal_disease/
3. Pihlstrom BL, Michalowicz BS, Johnson NW. Periodontal diseases. The lancet. 2005 Nov 19; 366 (9499): 1809-20.
4. American Dental Association, O. H. (2016). Oral Health Retrieved 27.08.2016, 2016, from <http://www.mouth-healthy.org/en/az-topics/o/oral-health>
5. Mayo Clinic, P. (2016). Periodontitis Retrieved 02.09.2016, 2016, from <http://www.mayoclinic.org/diseases-conditions/periodontitis/basics/definition/con-20021679>
6. WEB_ MD. (2016). Gingivitis and Gum Diseases Retrieved 29.08.2016, 2016, from <http://www.webmd.com/oral-health/guide/gingivitis-periodontal-disease>
7. Crispian Scully, A. U. (2016). Aphthous Ulcers Retrieved 05.09.2016, 2016, from <http://emedicine.medscape.com/article/867080-overview#a5>
8. Tsu-Yi Chuang, L. P. (2016). Lichen Planus Retrieved 07.09.2016, 2016, from <http://emedicine.medscape.com/article/1123213-overview#a6>
9. Web_ MD. (2016). Oral Care Guide Retrieved 27.08.2016, 2016, from <http://www.webmd.com/oral-health/guide/bad-breath>
10. Ababneh KT, Hwaij ZM, Khader YS. Prevalence and risk indicators of gingivitis and periodontitis in a multi-centre study in North Jordan: a cross sectional

- study. BMC oral health. 2012 Dec 1; 12(1): 1.
11. Ali S, Nasir N, Masood A, Bashir U. Prevalence of gingivitis in patients visiting Islamic International Dental Hospital. Ann Pak Inst Med Sci. 2012;8(2): 150-2.
 12. BARI MEMON AB, YAQOOB MEMON MO, Khatoon S, Ilyas M, KHAN AFRIDI AB, Kumar S. PLAQUE SCORE AND GINGIVAL HEALTH STATUS AMONG 6-12 YEARS OLD CHILDREN IN HYDERABAD DIVISION. Pakistan Oral & Dental Journal. 2015 Sep 1; 35(3).
 13. Dhakal B, Humagain M, Kafle D. Prevalence of Gingivitis Among The Patients Visiting Dental OPD of Dhulikhel Hospital. Journal of Nepal Dental Association-JNDA| Vol. 2015 Jan;15(1):25.
 14. Center Of Disease Control. (2015, March 10, 2015). Periodontal Diseases Retrieved 06.09.2016, 2016, from http://www.cdc.gov/oralhealth/periodontal_disease/
 15. Singh M, Saini A, Saimbi CS, Bajpai AK. Prevalence of dental diseases in 5-to 14-year-old school children in rural areas of the Barabanki district, Uttar Pradesh, India. Indian Journal of Dental Research. 2011 May 1;22(3):396.
 16. World Health Organization. Oral health promotion: an essential element of a health-promoting school. World Health Organization; 2003.
 17. Petersen PE, Bourgeois D, Ogawa H, Estupinan-Day S, Ndiaye C. The global burden of oral diseases and risks to oral health. Bulletin of the World Health Organization. 2005; 83:661-9.
 18. Shahzad M, Moosa Y, Ahmad F, Farooq S. PREVALENCE OF ORAL DISEASES” A STUDY DONE ON WORLD ORAL HEALTH DAY. Pakistan Oral & Dental Journal. 2015 Sep 1;35(3).
 19. Upadhyaya C, Humagain M. The pattern of tooth loss due to dental caries and periodontal disease among patients attending dental department (OPD), Dhulikhel Hospital, Kathmandu University Teaching Hospital (KUTH), Nepal. Kathmandu University Medical Journal. 2009;7(1):59-62.
 20. Shahzad M, Moosa Y, Ahmad F, Farooq S. PREVALENCE OF ORAL DISEASES” A STUDY DONE ON WORLD ORAL HEALTH DAY. Pakistan Oral & Dental Journal. 2015 Sep 1; 35(3).
 21. Sami E, Vichayanrat T, Satitvipawee P. Caries with Dental Fluorosis and Oral Health Behaviour Among 12-Year School Children in Moderate-Fluoride Drinking Water Community in Quetta, Pakistan. Pakistan. Journal of the College of Physicians and Surgeons Pakistan. 2016 Sep 1; 26(9): 744-7.
 22. LAKDAWALA YA, MASOOD S, GULZAR I, BATOOL F, Arshad R. FREQUENCY OF APTHOUS ULCERS--A STUDY. Pakistan Oral & Dental Journal. 2017 Sep 1; 37(3).
 23. Butt A, Ahmed B, Parveen N, & Yazdanie, N. (2009). Oral health related quality of life in complete dentures. Pak Oral Dent J, 29(2), 397-402.
 24. Naseeb AA. National Oral Health Survey of Oral Health Status of Bahraini School Children Aged 6, 12 and 15 Year Old. Dental News. 2016 Sep;19(3666):1-8.
 25. Petersen PE, Bourgeois D, Ogawa H, Estupinan-Day S, Ndiaye C. The global burden of oral diseases and risks to oral health. Bulletin of the World Health Organization. 2005; 83:661-9.
 26. Syed, F. (2014). Problems and the way forward. Oral Health Retrieved 22 October, 2016, from <http://www.pakistandentalcommunity.com/problems-and-the-way-forward/>