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ORIGINAL ARTICLE

Frequency of medical comorbidities in patients attending oral and Maxillofacial Surgery Department at University College of Dentistry, University of Lahore.

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ABSTRACT… Objectives: To find the frequency and type of comorbid conditions in patients presenting with oral diseases. **Study Design:** Observational study. **Setting:** Department of Oral and Maxillofacial Surgery, University College of Dentistry, University of Lahore. **Period:** January 2018 to December 2019. **Material & Methods:** After approval from the ethical committee, all cases presenting with oral diseases to the oral and maxillofacial surgery department were recruited consecutively. A thorough history and relevant examinations were made. All the previous records of the patient, including laboratory tests and the medical summary, were reviewed for the existence of any comorbid conditions. The data was entered on the spreadsheet. Descriptive statistics were used. Frequencies and percentages were calculated for comorbid conditions. **Results:** This study included 17155 patients who visited the oral and maxillofacial surgery department for procedures related to oral surgery. Others patients presenting to other departments of dentistry were excluded. Out of these, 4056 patients (24%) had comorbid conditions. Among these patients, 77% had single comorbid condition and 23% had multiple systemic disease. The most common comorbid condition was hypertension (77%), followed by diabetes (33%) and hepatitis (11%). **Conclusion:** A high prevalence of comorbidities was found in our study. Hypertension, diabetes mellitus, and hepatitis C were the common comorbidities. In addition, a significant number of patients had multiple comorbidities.

Key words: Comorbidities, Dental Audit, Medically Compromised Patients.

INTRODUCTION

An audit in health care is a performance enhancement project that concentrates on particular elements or angles of patient safety. It is a method used by clinicians to enhance the quality of patient care.[1] Presence of comorbid is a significant issue that is related to more regrettable well-being results, progressively complex clinical management, and expanded medicinal cost.[2] Comorbidity is an issue we deal with every day, and many people are unaware of this concept. Comorbid is the presence of one or more additional conditions along with the primary ailment.[3] Multimorbidities, co-corbidities and the burden of disease are the exchangeable words to describe multiple systemic medical conditions.[5]

Patients who visit dental emergency centers may present with undetected medical conditions, or they conceal their previous illness. In short, patients do not feel it relevant to their oral sickness, so it is the prime duty of dental specialists to deal with it efficiently.

The events of emergency crises are uncommon in dental practice; nevertheless, they may happen any time amid or after dental surgery and can be fatal. Therefore, taking the complete medical history, documenting recent drugs being used and consulting with primary physicians are of utmost importance for safe dental procedures. It also helps dental health care providers to choose the appropriate management for a specific case without having any untoward reactions or dental emergencies.[5]

This study was planned to know the frequency of comorbidities among the patients presenting

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with oral diseases at the University College of Dentistry, University of Lahore, to know the commonly prevailing comorbidities in dental patients. With this knowledge, we can train our medical graduates to safely treat these patients and avoid medical emergencies in the dental office.

MATERIAL & METHODS

After approval from the ethical committee (UCD/ERAC/20/11), all patients presenting to oral and maxillofacial surgery department for procedures related to oral surgery were included consecutively from January 2018 to December 2019. This is two years audit, so all patients were included and taken as a sample. A thorough history was taken and a relevant examination was done. All the previous records of the patient, including laboratory tests and the medical summary, were reviewed for patients having comorbid conditions. Those patients who do not have previous history or record but having current history suggestive of any systemic illness were referred to the relevant department, and their comorbidity was confirmed. Data were entered on a spreadsheet. Descriptive statistics were used to calculate frequencies and percentages of comorbid conditions.

RESULTS

During this study period, 17155 patients were presented to the department. Patients afflicted with comorbidities were 4056 (24%). Medically compromised patients comprised 51% females and 49% males, as shown in Figure-1.

Common medical conditions observed in patients were: hypertension, diabetes mellitus, hepatitis C, cardiac disorders, kidney disorders, asthma, tuberculosis and thyroid disorders. Among 4056 patients, 49% had hypertension, making it the most common primary ailment, followed by diabetes (33%) and hepatitis C (11%). Five percent of the patients presented with cardiac disorders. Two patients with HIV (AIDS) were also reported in the study (Figure-2). Sixty-five percent of the patients who presented with hypertension were females. Patients presented with the single primary ailment were77%, while multiple medical conditions were found in 23%. (Table-I)

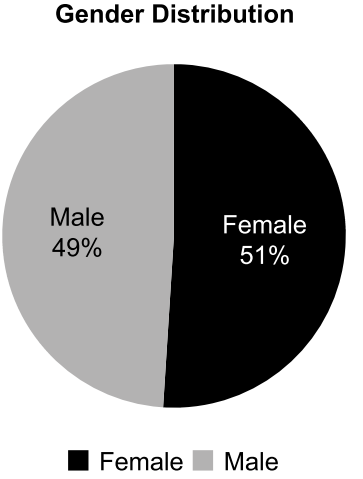

Figure-1. Gender distribution.

Comorbidities	Number	Percentage
Single	3132	77%
Multiple	924	23%
Total	4056	100%

Table-I. Single or multiple comorbidities.

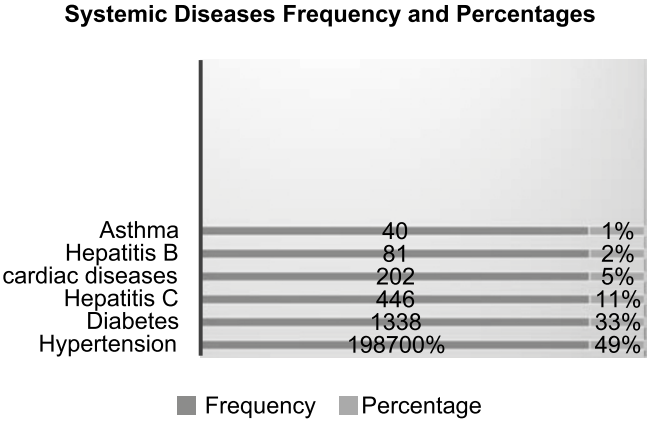

Figure-2. Frequencies are presented in the bar chart.

DISCUSSION

Systemic diseases should be taken into account during dental treatment due to their greater prevalence and association with oral diseases. Timely management of these comorbid conditions can prevent morbidity and mortality. In fact, examination of the oral cavity is the leading point in the detection of systemic diseases. The prevalence of comorbid conditions in patients presenting with diseases of the oral cavity is not much studied as our population is concerned

as only a few studies are available.[5] However, international literature showed high prevalence;[6-7] apart from this, a high prevalence of systemic diseases like hypertension and diabetes in our community warrants screening of these conditions.

The prevalence of the comorbid condition in our study was 24%. Among these patients, 77% had a single comorbid condition and 23% presented with multiple comorbid conditions. This is according to international literature. Smeets et al. reported the prevalence of comorbidities up to 23.9%.[8] However, Maryam et al. reported a high prevalence of systemic diseases, up to 73.3% alone or combined.[8]

The gender distribution female to male ratio in this research was 1.04 to 1. A similar ratio was reported by Khalid et al. in which the female to male ratio having comorbid conditions was 1.04:1.[10] Other international literature reported; females have more comorbid conditions than males. For example, Chandler's[11] reported 40% male and 60% female while Radfar and Danu described 2:1 and 5:1ratio, respectively.[12,13]

In our study, 51% female and 49% male have either single or multiple comorbid conditions. Hypertension was the most common comorbid in our study, similar to the results of other studies. Mirza et al. reported, out of 548 patients with known medical conditions, 328 (60%) patients had hypertension, making it the most common cause. Similarly, Maryam et al. reported that the second most common comorbid condition in the Irani population was hypertension (11%).[14,15] In our study, 49% had hypertension which is a little high as compared to national and international literature. It may be because of the high prevalence of hypertension in the general population of Pakistan; as shown in a meta-analysis done by shah N and his colleagues, pooled prevalence of hypertension was 26.3% in the Pakistani population.[16] Oral diseases and hypertension have a strong relation. Gingivitis, hyposalivation periodontitis, facial nerve paralysis, and lichenoid reactions are commonly seen in hypertensive patients.[17] Hypertension is a significant risk factor for cardiovascular diseases and stroke.[18]

Diabetes mellitus was the second most common disease (33%) in this study and comparable to local studies. Shahzad M et al. reported diabetes was the second most common systemic disease in patients presenting with oral ailments.[19] This might be due to the reason that diabetes mellitus has a high rate of complications, including periodontal problems, dental decay, and impairment in the regeneration of tissue after dental injury.[20] Edward et al. described a strong association between diabetes and oro-dental diseases.[21] So, modification in management according to Guidelines should be done in diabetic patients requiring dental procedures.

Hepatitis c was the third most common associated disease (11%) in our study. According to the systemic review done by Umer M and Iqbal M, which included the studies between 2010 and 2015 showed the prevalence of hepatitis c in the general adult population up to 6.8%.[22] So, the higher incidence of hepatitis c in our study is due to the high prevalence in our country as it is endemic in Pakistan.[22] Dental procedures are a common source of transmission of hepatitis C, so care must be taken during the handling of these patients.[23]

Other comorbid conditions in our study were cardiac diseases, renal diseases, asthma, tuberculosis, thyroid disorders, thalassemia, epilepsy, HIV, and hepatitis B.

The identification of systemic diseases is of utmost importance to provide safe dental treatment to these patients. Highlighting the importance of comorbidities in patients coming for dental procedures is essential for the health care provider, as effective management of life-threatening medical emergencies significantly reduces mortality and morbidit.[23]

Strength of Our Study

Our study had a large sample size and had shown the whole spectrum of comorbidities in patients presenting with oral diseases at our center.

LIMITATION

The severity of comorbidities was not assessed. Our study is a single-centered study and many demographic details were not assessed due to local norms. Socioeconomic details were not considered, like the University College of Dentistry is a private set up, most of the patients belong to a higher middle socioeconomic class. This could lead to bias as the patient sample may not be true representatives of the general population. Further multicenter studies are recommended by overcoming these limitations.

CONCLUSION

A high prevalence of comorbidities was found in our study. Hypertension, diabetes mellitus, and hepatitis C were the most common comorbidities. A significant number of patients had multiple comorbidities. Further research is needed to highlight the importance of comorbidities further.

REFERENCES

1. Esposito P, Dal Canton A. **Clinical audit, a valuable tool to improve quality of care: General methodology and applications in nephrology.** World journal of nephrology. 2014 Nov 6; 3(4):249.

2. Anders PL, Comeau RL, Hatton M, Neiders ME. **The nature and frequency of medical emergencies among patients in a dental school setting.** J Dent Educ 2010; 74(4):392-6.

3. Gupta D, Sheikh S, Rashmi NC, Aggarwal A, Bansal R. **Assessment of the awareness of dental professionals regarding identification and management of dental patients with psychological problems in routine dental operatory: A survey.** Oral Health Dent Manag 2014; 13(2):435-40.

4. Ghosh D, Karunaratne P. **The importance of good history taking: A case report.** Journal of medical case reports. 2015 Dec; 9(1):1-3.

5. Chi AC, Neville BW, Krayer JW, Gonsalves WC. **Oral manifestations of systemic disease.** American family physician. 2010 Dec 1; 82(11):1381-8.

6. Parirokh M, Eghbal MJ, Ghoddusi J, et al. **The frequency of medically compromised patients in endodontic offices in Iran.** Iran Endod J 2013; 8(2):48-51.

7. Taghibakhsh M. **Evaluation of the prevalence of systemic diseases in patients referring to the oral and maxillofacial medicine department of the dental branch of Islamic Azad University of Tehran During 2016-17.** J Dent Res 2018; 3(3):9-18.

8. Gaphor SM, Abdullah MJ. **Medical status and medication use in patients attending Shorish private dental specialty in Sulaimani city.** J Interdiscipl Med Dent Sci 2014; 2(4):1-5.

9. Maryam A, Atessa P, Pegah MM, Zahra S, Hanieh G, Davood A, Yeganeh K. **Medical risk assessment in patients referred to dental clinics, Mashhad, Iran.** Open Dent J 2015; 9(1):421-5.

10. Siddiqi KM, Baig MZ, Awan MJ, Sahibzada HA, Akhtar A. **Pattern of medical conditions among patients attending oral and maxillofacial surgery over a period of one year.** J Islamabad Med Dent College 2016; 5(1):26-9.

11. Maryam A, Atessa P, Pegah MM, Zahra S, Hanieh G, Davood A, Yeganeh K. **Medical risk assessment in patients referred to dental clinics, Mashhad, Iran (2011-2012).** The open dentistry journal. 2015; 9:420.

12. Radfar L, Suresh L. **Medical profile of a dental school patient population.** J Dent Educ 2007; 71(5):682-6.

13. Dhanuthai K, Sappayatosok K, Bijaphala P, Kulvitit S, Sereerat T. **Prevalence of medically compromised conditions in dental patients.** Med Oral Patol Oral Cir Bucal 2009; 14(6):287-91.

14. Mirza D, Baqar A, Ali T, Hakeem S, Ahmed S, Monpuri A, Raza G, Mumtaz M. **Recognition of medically compromised conditions in Pakistani Dental Treatment Seekers at Bahria University Dental Hospital: A Retrospective study.** IOSR J Pharm Biol Sci 2016; 11(4):58-62.

15. Maryam A, Atessa P, Pegah MM, Zahra S, Hanieh G, Davood A, Yeganeh K. **Medical risk assessment in patients referred to dental clinics, Mashhad, Iran.** Open Dent J 2015; 9(1):420-25.

16. Shah N, Shah Q, Shah AJ. **The burden and high prevalence of hypertension in Pakistani adolescents: A meta-analysis of the published studies.** Arch Public Health 2018; 76(1):20.

17. Kumar P, Mastan KM, Chowdhary R, Shanmugam K. **Oral manifestations in hypertensive patients: A clinical study.** J Oral Maxillofac Pathol 2012; 16(2):215-21

18. Kjeldsen SE. **Hypertension and cardiovascular risk: General** aspects. Pharmacol Res 2018; 129:95-9.

19. Shahzad M, Moosa Y, Sumita, et al. **Prevalence of systemic diseases in patients seen at oral medicine department.** Pak Oral Dent J 2018; 38(3):337-40.

20. Latti BR, Kalburge JV, Birajdar SB, Latti RG. **Evaluation of relationship between dental caries, diabetes mellitus and oral microbiota in diabetics.** J Oral Maxillofac Pathol 2018; 22(2):282.

21. Edward Anyasodor A, Uba Nwose E, Stuart Richards R, et al. **Comorbidity of diabetes mellitus and orodental diseases in Nigeria.** Curr Diabetes Rev 2017; 13(3):289-99.

22. Umer M, Iqbal M. **Hepatitis C virus prevalence and genotype distribution in Pakistan: Comprehensive review of recent data.** World J Gastroenterol 2016; 22(4):1684-1700.

23. Averbukh LD, Wu GY. **Highlights for dental care as a Hepatitis C risk factor: A review of literature.** Journal of clinical and translational hepatology. 2019 Dec 28; 7(4):346.

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3	Tahmasub Faraz Tayyab	Data analysis, Literature review.	
4	Muhammad Rashid	Write up, Final review.	
5	Komal Qudsia Sattar	Write up, Literature review.	
6	Javeria Usman	Data collection, Final review.	