PATTERN OF DENTAL DISEASES AMONG PATIENTS PRESENTING AT A TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: To determine the pattern of the dental diseases among patients attending dental department of the Sheikh Zayed Hospital Rahim Yar Khan.

Study Design: Cross-sectional study.

Place and Duration of Study: Sheikh Zayed Hospital, Rahim Yar Khan. 06 months(July-December 2023).

Material and Methods: The study was carried out at the Dental Outpatient Department (OPD) of Sheikh Zayed Medical College and Hospital. Consecutive sampling was used to enroll a total of 300 patients. Patients of any age with dental conditions, regardless of gender, who were undergoing treatment at the Dental OPD were eligible to participate as long as they fulfilled the inclusion requirements. A predesigned and pretested questionnaire covering relevant study variables including demographic and different dental diseases was used for data collection. For analysis, data were imported into SPSS version 20.

Results: A total of 300 patients were included in the study, the mean age was 31±15 years, 181 (60.3%) were females. Most of the patients 160 (53.3%) presented with dental caries, 41(13.7%) with broken down root, 14 (4.7%) with calculus, 14 (4.7%) with gingivitis, 12 (4%) with periodontal disease, 6 (2%) with malaligned teeth, 4 (1.3%) with trauma, 1 (0.3%) with staining, 48(16%) with other diseases. About one third 93 (31%) of the patients had duration of disease as more than a year.

Conclusion: This study provides valuable insights into the distribution and management of dental diseases in a tertiary care setting. It emphasizes the need for targeted interventions to address dental health disparities and improve access to care in resource-constrained regions. Future research should focus on the socio-economic, environmental, and behavioral determinants of dental diseases to develop effective prevention and treatment strategies.

Keywords: *Calculus, Caries, Dental diseases, Frequency, Gingivitis.*

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INTRODUCTION

Dental disorders are among the most common health problems in the world, affecting people of all ages and socioeconomic status [1] . Although the prevalence of some dental problems has decreased as a result of preventive efforts like fluoridation and education on oral cleanliness, there are still gaps in access to oral healthcare services, especially in underprivileged communities [2]. For efficient resource allocation, management, and prevention within healthcare systems, it is imperative to comprehend the patterns and trends of dental illnesses.

In the management of complicated and advanced dental illnesses, tertiary care facilities are essential. They frequently act as referral hubs for patients in need of specialized oral healthcare procedures [3,4]. Even with their importance, there is still a dearth of study on the prevalence and epidemiology of dental disorders in tertiary care settings, especially when considering a variety of patient populations and geographical areas [5]. By providing a thorough examination of the pattern of dental illnesses at a tertiary care hospital, this research piece seeks to close this gap. We aim to offer important insights into the burden of oral health disorders and the difficulties faced by patients and healthcare providers by looking at the prevalence, demographics, clinical presentations, and associated factors of various dental conditions encountered in this setting [6,7].

Additionally, a comprehensive grasp of the range of dental conditions found in tertiary care facilities is necessary to improve clinical judgment, maximize therapeutic approaches, and guide public health campaigns meant to lower the prevalence of oral disorders in general [8,9]. Furthermore, recognizing recurring patterns and new trends can help direct the creation of focused interventions and preventative measures catered to the unique requirements of the patient population, these specialized healthcare facilities serve [10,11]. This study seeks

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to contribute to dental epidemiology by thoroughly analyzing patient records, clinical data, and diagnostic information. It also provides practical implications for improving the delivery of oral healthcare within tertiary care settings. Ultimately, our goal is to enable the development of more efficient methods for promoting oral health and enhancing patient outcomes by illuminating the complex patterns of dental illnesses seen in this environment.

MATERIAL AND METHODS

The study was carried out at the Sheikh Zayed Medical College and Hospital's Outpatient Department (OPD) of the Dental Department in association with Community Medicine Department at Rahim Yar Khan. It used a cross-sectional design. The period of the study was June through December 2023. Assuming that 23% of the subjects in the population have the factor of interest i.e. dental problem,[11] the study required a sample size of 273 for estimating the expected proportion with 5% absolute precision and 95% confidence. The sample size was enhanced to 300 for improved representation and validity. Consecutive sampling technique was used to enroll a total of 300 patients. Patients of any age with dental conditions, regardless of gender, who were undergoing treatment at the Dental OPD of Sheikh Zayed Medical College and Hospital were eligible to participate as long as they fulfilled the inclusion requirements. Those patients who refused to take part in the trial were not included in the study. A predesigned and pretested questionnaire covering relevant study variables was used for data collection. Prior to the start of data collection, all patients who met the inclusion criteria such as patients of any age with dental conditions, regardless of gender, and exclusion criteria including those did not give consent for data collection, were informed of the objective of the study and were ensured of the confidentiality. The Institutional Review Board provided its ethical clearance. For analysis, data were imported into SPSS version 20. For numerical variables mean and standard deviation, such as age, monthly household income (in Pakistani Rupees), and illness duration were summarized. The percentages of several categorical characteristics, such as comorbidities, frequency of dental conditions, gender, residence, and education level, were displayed.

RESULTS

Of the 300 patients included in the study, the mean age was 31±15 years. Table 1 shows the demographic characteristics of the study participants. Similarly, Table 2 underscores the clinical characteristics of the patients included in the study. The mean duration of the disease was 580±80 days.

It is evident from figure 1 that a substantial number of patients 160 (53.3%) presented with dental caries, 4 (1.3%) with trauma, 41(13.7%) with broken down root, 14 (4.7%) with calculus, 12

CAPSULE SUMMARY

This study provides useful information about the prevalence of dental illnesses in the area demanding focused initiatives to enhance oral health outcomes and accessibility to dental care services. Based on this study, future research should explore the underlying determinants of dental diseases.
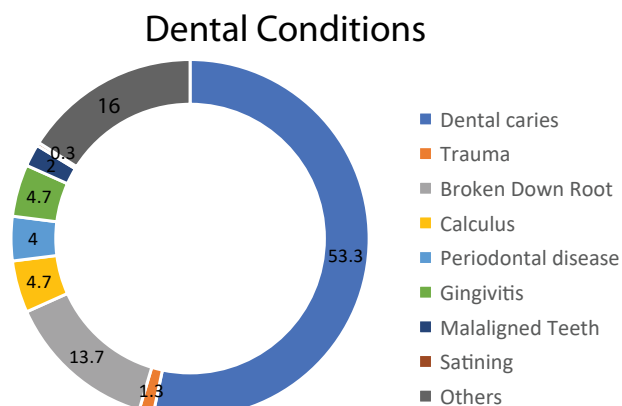
(4%) with periodontal disease, 14 (4.7%) with gingivitis, 6 (2%) with malaligned teeth, 1 (0.3%) with staining, 48(16%) with other diseases. Table 2 outlines patient characteristics, including disease duration, with 93 patients (31%) having been ill for over a year. Dental caries affect the majority, with 160 patients (53.3%) diagnosed, and 250 patients (83%) have already received treatment for dental disease.

DISCUSSION

The study sought to assess the distribution of dental diseases among patients in the dental outpatient

Table 1: Demographic characteristics of the study participants

DEMOGRAPHIC PROFILE		n	%
Gender			
	Male	119	39.7
	Female	181	60.3
Residence			
	Rural	126	42
	Urban	174	58
Education			
	Illiterate	87	29
	Primary	97	32.3
	Matric	79	26.3
	Graduate	33	11
	Postgraduate	4	1.3
Monthly Family Income (Rs.)			
	≤ 18000	185	61.7
	18001-40000	99	33
	≥ 40000	16	5.3

Dental Conditions

- Dental caries — 53.3
- Trauma — 1.3
- Broken Down Root — 13.7
- Calculus — 4.7
- Periodontal disease — 4
- Gingivitis — 4.7
- Malaligned Teeth — 2
- Satining — 0.3
- Others — 16

Figure 1: Dental diseases distribution among study population.

Table 2: Clinical characteristics of the study participants

CLINICAL PROFILE		
Disease Duration Groups	n	%
Less than a month	69	23
2-6 months	71	23.7
7-12 months	67	22.3
More than 1 year	93	31
Primary Diagnosis		
Dental Caries	160	53.3
Others	140	46.7
Comorbidities		
None	228	76
Diabetes Mellitus	23	7.7
Hypertension	24	8
Hepatitis	12	4
Others	13	4.3
Affected Teeth Quadrant		
Upper Right	49	16.3
Upper Left	48	16
Lower Right	98	32.7
Lower Left	62	20.7
Generalized	43	14.3
Recommended Treatment		
RCT (Root Canal Treatment)	69	23
Filling	28	9.3
Extraction	116	38.7
Others	87	29
Treatment Availed		
Yes	250	83.3
No	50	16.7
Treatment Provider (among those who received treatment)		
Doctor	223	89.2
Quack	27	10.8

- *Rs. refers to Pakistani Rupees.*
- *RCT (Root Canal Treatment) is a dental procedure to treat a severely infected tooth.*
- *Quack refers to a person who pretends to have medical skills that they do not possess.*

department of a tertiary care hospital and investigate the burden of dental diseases frequency and other variables in order to comprehend the behavioral approach of patients to disease management.

The demographic and clinical features of the patient group have been revealed by key findings. The mean age was 31±15 years, with almost one third 93 (31%) have duration of dental disease of more than 1 year. A family's monthly income of less than RS. 18000/- was noted in 185 (61.7%). The mean duration of disease was 580 days.

Analyses in comparison with other study provide insight into the dental care-seeking practices. For example dental diseases were found more among low income population, illiterate or low education level, and more in urban residence, which was consistent with the trends we saw in our study [10].

Dental caries was shown to be the most common dental ailment, affecting 53.3% of patients. This is in contrast to other researches where gum disease was more prevalent and tooth loss was more due to periodontal disease[11,12]. The study also revealed low awareness of and attitudes toward routine dental care, with a sizable percentage of patients delaying treatment until an issue developed. Different treatments were suggested, and a sizable percentage of patients chose extraction. Remarkably, a sizeable portion of patients sought care from non-professional sources, highlighting inadequacies in official dental care provision.

Interesting trends emerged from the analysis of disease duration by gender, residency, and income. For instance, compared to men, a larger percentage of females experienced longer disease durations. In a similar study, patients' illness durations tended to be higher for those with lower incomes and those living in rural areas[13].

Overall, the study offers insightful information about the prevalence and treatment of dental illnesses in the area, highlighting the necessity of focused initiatives to enhance oral health outcomes and accessibility to dental care services. Despite its contributions, this study has several limitations that warrant consideration. Firstly, it was a small sample size study and carried out at a single center. Additionally, the reliance on self-reported data and the use of a consecutive sampling method may introduce bias and affect the generalizability of the findings.

Building on the findings of this study, future research should explore the underlying determinants of dental diseases including socio-economic, environmental, and behavioral factors. Longitudinal studies tracking oral health outcomes longitudinally can provide insights into the natural history of dental diseases and help identify modifiable risk factors for targeted intervention.

CONCLUSION

In conclusion, this study sheds light on the patterns of dental diseases in our study subjects and underscores the need for targeted interventions to address the significant burden of dental health issues in the area. By identifying prevalent conditions and demographic disparities, the findings of this study contribute to the evidence base for designing effective dental health promotion strategies and improving access to dental care services.

AUTHORS' CONTRIBUTION

Ghulam Mustafa, Sana Shaukat Siddiqui	Drafting the Article
Fahad Amjad Sheikh, Sana Shaukat Siddiqui	Analysis and interpretation of data
Ghulam Mustafa, Fahad Amjad Sheikh	Conception and design
Ghulam Mustafa, Fahad Amjad Sheikh, Sana Shaukat Siddiqui	Acquisition of data
Ghulam Mustafa, Fahad Amjad Sheikh, Sana Shaukat Siddiqui	Critical revision

REFERENCES

1. Selvaraj S, Naing NN, Wan-Arfah N, et al. Epidemiological factors of periodontal disease among South Indian adults. J Multidiscip Health. 2022 :15:1547-1557.

2. AlTuraiki AM, Jaemal HM, Alamer AA, et al. Oral Health and Patterns of Dental Visits Among Diabetic Patients in the Eastern Province of Saudi Arabia. Clin Cosmet Investig Dent. 2021 ;13: 513-520.

3. Kumar A, Saini RS, Sharma V, et al. Assessment of Pattern of Oral Prosthetic Treatment and Prevalence of Oral Diseases in Edentulous Patients in North Indian Population: A Cross-sectional Study. J Pharm Bioallied Sci. 2021;13(Suppl 1):S187-S189.

4. Nagarajappa R, Ramesh G, Uthappa R, et al. Risk factors and patterns of traumatic dental injuries among Indian adolescents. J Dent Sci. 2020;15(1):96-103.

5. Batra P, Saini P, Yadav V. Oral health concerns in India. J Oral Biol Craniofac Res. 2020;10(2):171-174.

6. Ramanarayanan V, Karuveettil V, Sanjeevan V, et al. Measuring dental diseases: A critical review of indices in dental practice and research. Amrita J Med. 2020 ; 16(4):152-158.

7. Hopcraft M, Farmer G. Impact of COVID-19 on the provision of paediatric dental care: Analysis of the Australian Child Dental Benefits Schedule. Community Dent Oral Epidemiol. 2021;49(4):369-376.

8. Moharrami M, Bohlouli B, Amin M. Frequency and pattern of outpatient dental visits during the COVID-19 pandemic at hospital and community clinics. J Am Dent Assoc. 2022; 153(4): 354-364.

9. Watson S, Woodside JV, Winning L, et al. Associations between self-reported periodontal disease and nutrient intakes and nutrient-based dietary patterns in the UK Biobank. J Clin Periodontol. 2022;49(5):428-438.

10. Gao X, Ding M, Xu M, et al. Utilization of dental services and associated factors among preschool children in China. BMC Oral Health. 2020 ;20(1):9-18.

11. Almotairy N, Althunayyan A, Alkhuzayyim D, et al. Dental pattern diversity in a Saudi Arabian population: An orthopantomogram-based study. Saudi J Health Sci. 2022 ;11(3):190-196.

12. Alonaizan FA, Almas K, Nazir MA,et al. Medical conditions, oral health practices, and barriers to treatment among patients visiting a teaching dental hospital in Eastern Saudi Arabia. Sci World J. 2022;2022(2).1-7.

13. Alassiry A. Prevalence and distribution of selected dental anomalies in Najran City of Saudi Arabia. Egypt Dent J. 2020;66(3):1471-1482.