ORIGINAL ARTICLE

A RETROSPECTIVE STUDY OF DIAGNOSTIC PROFILE OF PATIENTS ATTENDING DENTAL OUTPATIENT DEPARTMENT AT A TERTIARY CARE CENTRE IN CENTRAL INDIA

Karuna Jindwani¹, Keshav Singh², G. P. Shrivastava³, A. P. S. Gaharwar⁴

HOW TO CITE THIS ARTICLE:

Karuna Jindwani, Keshav Singh, G. P. Shrivastava, A. P. S. Gaharwar. "A Retrospective Study of Diagnostic Profile of Patients Attending Dental Outpatient Department at a Tertiary Care Centre in Central India". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 59, July 23; Page: 10277-10283, DOI: 10.14260/jemds/2015/1481

ABSTRACT: INTRODUCTION: Dental diseases are an important public health problem in developing countries. These ailments are globally involving the people of all regions and society and found in subjects of varying age groups. The present study was undertaken to analyze the demographic characteristics and diagnostic profile of patients attending the dental outpatient department (OPD) of Shyam Shah Medical College (S.S.M.C) in Rewa district of Madhya Pradesh (M. P.). **MATERIAL AND METHODS:** A retrospective descriptive study was conducted on all consecutive patients attending the dental OPD at S. S. Medical College from 1st January 2011 to 31st December 2011. The final sample size was of 2,574 patients with age ranging from 6 months to 85 years. Results: - From a total of 2,574 patients, 1339 were females (52.02%) and 1235 were males (47.9%). Maximum patients were treated in the month of July and minimum number of patients was recorded in the month of August in our survey. Most common oral disease was pulpitis as a sequelae to dental caries or trauma to teeth. 09 cases of frank carcinoma were recorded during this span. **CONCLUSION:** Most of these diseases are preventable. Hence, few vital tips as preventive recommendations are prescribed.

KEYWORDS: Diagnostic profile, Demographic characteristic, OPD, Dental diseases, Pulpitis.

INTRODUCTION: Poor oral health impacts the quality of life of children, adults, and the aged. It affects nutrition, growth and development in children and adults.^[1,2] The prevalence of dental diseases shows large differences in various parts of the world. In industrialized countries reduction in these diseases has occurred where as in developing countries prevalence still continues to increase.^[2,3] Various dental ailments eventually lead to pain and teeth loss if left untreated. Treatment of common dental diseases involves restorative therapy which is not only expensive but also time taking, technique sensitive and sometimes painful.^[4] Considering these factors, effective control can only be achieved through an approach based on prevention.^[2,3]

This above mentioned realization has created vigorous interest in research for the demographic and diagnostic profile of patients with complaints involving oral and paraoral tissues. There is enough convincing evidence that regular prospective and retrospective surveys of oral diseases in different regions will have a major impact on implementing recent advances at the level of Government Medical Colleges. As far as our knowledge concern, no study has been conducted in the central parts of India.

Thus, this retrospective study was conducted in dental OPD of a multi-specialty tertiary care teaching hospital situated in Rewa district of Madhya Pradesh. It provides both out patients and inpatients services in various medical and dental specialties to patients residing in Rewa and other districts of M. P. like Satna, Sidhi, Shahdol, Umaria, Anuppur and Panna.

ORIGINAL ARTICLE

MATERIAL AND METHODS: Shyam Shah Medical College has Medical Council of India (MCI) recognized MBBS course and post graduate courses in all Medical subjects. This retrospective descriptive study was conducted at the dental OPD with the objective of analyzing demographic distribution and diagnostic profile of patients attending the OPD from 1st January 2011 till 31st December 2011. All the demographic and diagnostic data was recorded on monthly basis and analyzed collectively. All two thousand five hundred and seventy four patients attending the dental OPD were randomly included in the study.

RESULTS: Total of 2,574 patients attending dental OPD from the age group 06 months – 85 years were included in the study. Maximum number of patients belonged to the 3rd decade of life i.e. 889 patients (34.5%) followed by 654 patients (25.4%) from the age group 31-40 years. Infants with natal and neonatal teeth and nursing bottle caries accounted for 2.6% cases (68 patients). [Table 1] Minimum numbers of patients were from the 9th decade of life.

Sl. No.	Age Groups	No. of Patients	Percentage
1.	00-10 Years	68	2.64
2.	11-20 Years	231	8.94
3.	21-30 Years	889	34.53
4.	31-40 Years	654	25.40
5.	41-50 Years	338	13.13
6.	51-60 Years	226	8.78
7.	61-70 Years	57	2.21
8.	71-80 Years	82	3.18
9.	81-90 Years	29	1.12

Table 1: Distribution Of Patients According To Age Groups

There was no clear gender predilection found in this survey. However females outnumbered male patients with a male: female ratio of 0.92:1. 1,235 (47.9%) patients were males. 1,339 (52.02%) females were treated in the year 2011 at our institute. [Table 2 and Bar graph 1]

BAR GRAPH 1:

Gender Distribution in the Sample

ORIGINAL ARTICLE

Month	No. of Patients	Male	%	Female	%
Jan- 11	230	107	46.52	123	53.48
Feb- 11	209	95	45.45	114	54.55
Mar- 11	254	150	59.06	104	40.94
Apr- 11	223	105	47.09	118	52.91
May-11	226	110	48.67	116	51.33
Jun-11	229	99	43.23	130	56.77
Jul-11	291	133	45.70	158	54.30
Aug-11	162	63	38.89	99	61.11
Sep-11	204	118	57.84	86	42.16
Oct-11	190	104	54.74	86	45.26
Nov-11	184	77	41.85	107	58.15
Dec-11	172	74	43.02	98	56.98
Total	2574	1235	47.98	1339	52.02

Table 2: Total Number of Patients with Gender and Seasonal Distribution

As shown in table 2, Majority of the patients attended the OPD in the month of July i.e. 291 followed by 254 patients who seeks dental treatment in the month of March. However, the least number (162) of patients were recorded in the month of August 2011. This reduction in the patients was probably due to the increase in the number of marriage ceremonies and local festivals during this season in this part of M.P. However, on an average around 215 patients visited the dental OPD every month in the year 2011.

Month	Pul pitis	Gingi vitis	Period ontitis	Dentoal veolar abscess	Nmtl*	Tra uma	Perico ronitis	Oral ulcers	Retained teeth	Miscll aneous
Jan-11	110	20	10	17	09	24	10	07	06	17
Feb-11	104	26	16	09	08	18	10	04	03	11
Mar-11	125	20	28	21	16	17	04	03	03	17
Apr-11	108	29	11	14	16	18	04	01	0	22
May-11	113	17	19	12	19	12	12	06	0	16
Jun-11	121	24	15	21	11	05	08	07	02	15
Jul-11	148	31	27	20	10	09	13	03	04	26
Aug-11	73	20	10	12	08	08	10	01	0	20
Sep-11	102	19	20	06	17	06	08	03	0	23
Oct-11	85	06	25	21	13	08	06	04	03	19
Nov-11	78	10	26	20	08	12	13	05	02	10
Dec-11	77	05	16	22	16	10	09	02	03	12
Total	1244	227	223	195	151	147	107	46	26	208

Table 3: Common Oral Diseases in Dental Patients Attending OPD in the Year 2011

*NMTL – Non Malignant Tissue Lesion.

ORIGINAL ARTICLE

As per Table 3, dental pain due to pulpitis was the dominant complain found in 1244 patients (48.32%). Pulpitis is a sequel to dental caries or pulpal involvement during dental trauma. Dental caries was the most common dental disease in our study. Gingivitis was the most common disease involving the periodontal structures and was encountered in 227(8.8%) patients. Periodontitis is a common advancing condition from gingivitis where teeth depict mobility due to pocket formation and bone loss. This condition was treated with flap surgery in 223(8.6%) patients. Dentoalveolar abscess is an advancing condition when suppurative exudates crosses the bony barrier to present as localized fluctuant soft tissue swelling which was the chief complaint of 195 patients (7.5%).

Nonmalignant soft tissue lesions like leukoplakia, erythroplakia, lichenplanus, leucoderma etc were seen in 151 patients (5.8%), 147 patients (5.7%) with severe pan- facial trauma was treated with closed reduction and soft tissue repair under local anesthesia at dental OPD. Other common oral diseases found in dental patients as shown in Table 3 comprised of pericoronitis due to inflammation of pericoronal flap over erupting or impacted wisdom teeth in 107 patients (4.1%). Non-suspicious oral ulcers were seen in 46 patients (1.7%). 26 children (1.0%) in mixed dentition stage attended the OPD for extraction of retained deciduous teeth.

Sl. No.	Disease	No. of Patients
1.	MISSING TEETH (EDENTULISM)	39
2.	XEROSTOMIA AND TRISMUS	28
3.	SPACE INFECTION	27
4.	OSTEOMYELITIS	26
5.	NEURALGIA	21
6.	MALOCCLUSION	19
7.	FIBROMATOUS GROWTH	18
8.	MUCOSITIS	18
9.	CARCINOMA	09
10.	CYST	03
TOTAL		208

Table 4: Distribution of Patients In The Miscellaneous Group

Some other dental diseases reported less frequently were compiled under the miscellaneous group which comprised of 208 patients (8.0%) [Table 4]. In this group 39 patients (1.57%) sought partial or complete prostheses for missing teeth (Edentulism). Xerostomia or dry mouth and trismus was the chief complaint in 28 patients (1.08%) which were commonly from the 7th or 8th decade age groups and were indulged in chronic tobacco chewing or smoking habits. Space infections involving various potential spaces between the soft tissue planes were treated in 27 patients (1.04%). Life threatening and most grievous space infection was found in the cases of Ludwig's angina involving the bilateral submandibular and sublingual and mental spaces.

Suppurative osteomyelitis manifesting as extraoral sinus in relation to chronically infected odontogenic sources was surgically treated in 26 patients (1.0%). Trigeminal neuralgia, manifesting as lancinating and throbbing painful episodes on stimulation of trigger zone found in the supply areas of the maxillary and mandibular branch of trigeminal nerve, brought 21 patients (0.8%) to dental OPD in the year 2011. 19 cases (0.7%) sought alignment of malaligned teeth in cases of malocclusion

ORIGINAL ARTICLE

0.7% cases depicted fibromatous growth which was excised under local anaesthesia and sent for biopsy. Diffuse inflammation of oral mucosa or desquamative mucositis led to burning mouth syndrome in 18 patients (0.7%). Squamous cell carcinoma of tongue and in gingivobuccal complex was referred to cancer OPD for detailed investigations and further management.

DISCUSSION: There is scarcity of longitudinal prospective and retrospective data in literature covering the demography and diagnosis of dental patients. A thorough knowledge and reporting of substantial demographic and diagnostic analysis is of paramount importance for delivery of quality health services, in dental patients attending OPD at government teaching hospitals. This study is unique in that the selected patients are from the dental OPD at a tertiary care multi speciality teaching hospital in central region of MP. No similar study has been conducted in this part of India, and hence, direct comparison of findings is difficult.

Majority of the patients belonged to the middle age group ranging from 21-30 years which is in accordance with few other studies conducted on dental patients.^[5,6,7] Females outnumbered Male patients in our study which is consistent with some studies^[6,7,8] and was different from finding of some other studies^[2,5,8,9] Dental caries leading to reversible and irreversible pulpitis and subsequently manifesting as acute conditions like dentoalveolar abscess and chronic suppurative osteomyelitis was the commonest oral disease in the present study. It is similar to few other studies reported in literature.^[2,4,5,6,10,11] Restorative therapy was planned in most of the cases of pulpitis. However, non-restorable grossly decayed and retained deciduous teeth underwent dental extractions. Oral prophylaxis and root planning was the treatment of choice for periodontal diseases. Incision and drainage was done in the cases with dentoalveolar and space infections.

Maximum patients of maxillofacial trauma were treated with closed reduction and soft tissue repair under local anesthesia at dental chair in the OPD. However, few in patients with multiple injuries, referred from the departments of ENT, general surgery and orthopedics were treated with open reduction and internal fixation under general anesthesia at operation theatres by means of miniplates and screws. Surgical management was planned for impacted teeth, growths and cysts after taking elaborated medical history. Patients suffering from mucositis, ulcerations, non- malignant tissue lesions and neuralgias were promptly medicated.

LIMITATIONS: The present study is not without limitations. Short duration, absence of control group, cross- sectional assessment, and small, purposive sampling could yield errors while interpreting the results.

CONCLUSION AND SUGGESTIONS: Our study was an attempt to find out the untouched area of demographic distribution and diagnostic profile of dental patients attending the dental OPD in the northern part of M.P. The catchment area of our institution is a rural one with poor socioeconomic condition. Poor oral and personal hygiene in this region has significantly contributed to the rapid increase in the mentioned diseases. The etiology of all these diseases lies mainly in the following:

- Faulty nutrition.
- Poor oral and personal hygiene.
- Poor home hygiene.
- Poor environmental sanitation.

ORIGINAL ARTICLE

- Failure to provide adequate primary health care.
- Lack of political commitment.

As planners, we should fight against these factors rather than providing only curative services and that too mechanically. Though, our study is not a concluding study and it could not be generalized to community settings. However, such clinic- based regional studies and similar researches on a bigger sample size are the only concrete steps towards tackling and reducing dental diseases.

REFERENCES:

1. Olabisi AA, Udo UA, Ehimen UG, Bashiru BO, Gbenga OO, Prevalence of dental caries and oral hygiene status of a screened population in Port Harcourt, Rivers State, Nigeria. Adeniyi AO J Int Soc Prev Community Dent. 2015 Jan-Feb; 5(1):59-63.
2. P. D. Garkoti, Rajesh Kumar Singh, C. M. S. Rawat, Shubham Pandey. Prevalance of Dental Caries among Primary School Children of Haldwani: A cross sectional study. Journal of Evolution of Medical and Dental Science 2015; Vol4, Issue 41, May 21; Page: 7096-7100.
3. World Health Organization: Prevention Methods and Programme for Oral Diseases WHO Technical report Series 713. Geneva: WHO; 1984.
4. R B Adhikari, N malla, PS Bhandari. Prevalance and treatment needs of dental caries in school going children attending dental outpatient department of a tertiary care centre in western region of Nepal. Nap J of Med. Sci.2012 Vol 1. No.2.
5. Tushar Jagawat, Akhil Dhanda, Vikas Gaur. Psychiatric Co- Morbidity in Dental Outpatients Delhi. Delhi Psy. J 2013; 16(2); 302-303.
6. Pradip K Ray, Sampa Ray (Bhattacharya), Manabendra Makhal, Uttam Majumder, Shantanu De, and Subhankar Ghosh. Prevalence of psychiatric co-morbidity among patients attending dental OPD and the role of consultation-liaison psychiatry in dental practice in a tertiary care general hospital. Indian J Dent. 2015 Jan-Mar; 6(1): 32-36.
7. George AC, Hoshing A, Joshi NV. A Study of the reasons for irregular dental attendance in a private dental college in a rural set up. Indian J Dent Res 2007; 18: 78- 81.
8. Naba Raj Koirala, Rajesh Yadav, Ajay Kumar Das, Jwalanta Poudel, Santosh Kumar Bhagat. A study of socio-demographic and diagnostic profile of patients attending the psychiatric outpatient department of Nobel Medical College Biratnagar. Journal of Nobel Medical College Vol 1, No 2 (2011).
9. Joshi N, Rajesh R, Sunitha M. Prevalence of dental caries among school children in Kulasekharam village: a correlated prevalence survey. J Indian Soc Pedod Prev Dent. 2005 Sep; 23(3):138-40.
10. Shams Kazi, Amtul Qayoom, Iqbal, Waqas, Shakh, Saeed Sattar. Prevalence of dental caries; Patients attending outpatient department of Isra dental college hospital. Prof. med J2014, 21; 4, 750- 754.
11. Petersen, P.E.; 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, No. 83, 2005, p. 661-669.

ORIGINAL ARTICLE

AUTHORS:

1. Karuna Jindwani
2. Keshav Singh
3. G. P. Shrivastava
4. A. P. S. Gaharwar

PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Dentistry, G. R. Medical College, Gwalior, Madhya Pradesh.
2. Assistant Professor, Department of Medicine, S. S. Medical College, Rewa, Madhya Pradesh.
3. Retired Professor, Department of General Surgery, S. S. Medical College, Rewa, Madhya Pradesh.

FINANCIAL OR OTHER**COMPETING INTERESTS:** None

4. Professor, Department of General Surgery, S. S. Medical College, Rewa, Madhya Pradesh.

**NAME ADDRESS EMAIL ID OF THE
CORRESPONDING AUTHOR:**

Dr. Karuna Jindwani,
Assistant Professor,
Department of Dentistry,
G. R. Medical College, Gwalior,
Madhya Pradesh.
E-mail: jindwanikaruna@yahoo.co.in

Date of Submission: 03/07/2015.
Date of Peer Review: 04/07/2015.
Date of Acceptance: 16/07/2015.
Date of Publishing: 21/07/2015.