

TO STUDY THE DENTAL CONDITIONS IN DIABETES MELLITUS PATIENTS

Ganesh R. Kumeti¹, Bhupendra Kashyap²

¹Assistant Professor, Department of Dentistry, Lt. BRKM Government Medical College, Jagadapur, Chhattisgarh.

²Assistant Professor, Department of Dentistry, Lt. BRKM Government Medical College, Jagadapur, Chhattisgarh.

ABSTRACT

BACKGROUND

Periodontal disease is a chronic inflammatory condition and is now considered as the sixth complication of diabetes and also one of major oral complication of diabetes mellitus. Oral health is associated with various systemic conditions such as Diabetes, cardiovascular disorders etc. The main objective is to study the dental conditions in Diabetes mellitus patients.

METHODS

The study was conducted at Dental department of LTBRKM Gov. Medical College; Jagdalpur Chhattisgarh. The study was carried from Dec 2018 to May 2019. Total number of cases included in this study was 78. Permission from Institutional Ethics Committee was obtained. From each and every patient included in the study, initially informed individual consent was taken.

RESULTS

Out of 78 Cases 10 cases of Males and 5 cases of Females were present in between 35 - 40 Years of age group. 15 Cases of Males and 10 cases of Females were present in between 40 - 50 Years of age group. 20 cases of Males and 18 cases of Females were present in between 50 - 60 Years of age group. 15 cases of Tobacco intake with 19.23%, 18 cases of Sugar intake with 23.07%, 30 cases of Poor tooth brushing with 38.46% and 15 cases due to Local irritants with 19.23% were seen.

CONCLUSIONS

Health care professionals should play an important role to prevent and control it. Diabetic patients should regularly visit dentist in order to reduce oral complications. Health care professionals and Diabetic patients should emphasize necessity provisions in order to prevent the effect of the disease.

KEYWORDS

Diabetes mellitus, Oral health, periodontal diseases

HOW TO CITE THIS ARTICLE: Kumeti GR, Kashyap B. To study the dental conditions in diabetes mellitus patients. J. Evid. Based Med. Healthc. 2019; 6(32), 0000-0000. DOI: 10.18410/jebmh/2019/000

BACKGROUND

Periodontal disease is a chronic inflammatory condition characterized by destruction of the periodontal tissue and loss of connective tissue attachment, loss of alveolar bone and formation of pathological pockets around the diseased teeth and is now considered as the sixth complication of diabetes and also one of major oral complication of diabetes mellitus.¹

Oral health is associated with various systemic conditions such as Diabetes, cardiovascular disorders and its impact on quality of life.²

In case of diabetes, oral complications are quite common and are due to poor oral hygiene control. WHO as recognized diabetes mellitus is as pandemic? Diabetes is one of the main causes of death due to micro and macro vascular complications. Sialosis is very common among diabetic mellitus patients. Sialosis is defined as asymptomatic non-

inflammatory non-neoplastic biliary chronic diffused swelling mainly of parotid gland. Diabetic patients suffer from neuropathy have a higher taste threshold. Taste disturbances leads to poor glycemic control by inhibitory the ability to maintain good diet.³

Diabetes mellitus have a higher rate of caries and periodontal diseases compared to non-diabetic individuals according to some studies. Diabetic patients more likely to develop chronic periodontitis than non-diabetic patients.⁴

In some supportive periodontal treatment cases where scaling and root planning has failed to maintain the patient, antimicrobial intervention may be an appropriate alternative therapy. Supportive periodontal maintenance patients who have recurrent disease that does not respond to any of above treatments may need microbial analysis to determine the predominant pathogenic organism prior to selection of an appropriate antibiotic.⁵

METHODS

It was conducted at Dental department of LTBRKM Gov. Medical College; Jagdalpur Chattisgarh. The study was carried carried from Dec 2018 to May 2019. Total number of cases included in this study was 78. The study included patients attending dental department. Detailed history of patient was taken like Name, Age, Sex, and Chief complaint,

Financial or Other, Competing Interest: None.

Submission 16-07-2019, Peer Review 19-07-2019,

Acceptance 29-07-2019, Published 00-07-2019.

Corresponding Author:

Dr. Bhupendra Kashyap,

Department of Dentistry,

Lt. BRKM Government Medical College,

Jagadapur, Chhattisgarh.

E-mail: drbhupendrakashyap2019@gmail.com

DOI: 10.18410/jebmh/2019/000



History of present illness, past medical history, past dental history, Personal history, and Oral hygiene measures.

Using a semi-structured questionnaire with multiple choice questions, information was collected about diagnosis, oral hygiene habits, frequency and consumption of alcohol and tobacco and visits to the dentist were recorded.

Intra oral examination which includes hard tissue examination and Soft tissue examination. Periodontal probe is to measure pocket depths around a tooth in order to establish the state of health of the periodontium and radiographic examination to know the periodontal status of the patients.

Inclusive Criteria

Study included screening of all patients with Diabetes mellitus.

Patients willing to participate in the study.

Exclusive Criteria

Patients with other than Diabetes.

Patients not willing to participate in the study.

Statistical Analysis

The obtained data will be compiled, analyzed and interpreted. The data analysis will involve an understanding the causes of periodontal therapy failures. Data will be analyzed through SPSS.

RESULTS

Age	Males	Females
35 - 40	10	5
40 - 50	15	10
50 - 60	20	18

Table 1. Age and Sex Wise Distribution of Cases

Table 1 shows Age & Sex wise distribution of cases. Out of 78 Cases 10 cases of Males and 5 cases of Females were present in between 35-40 Years of age group. 15 Cases of Males and 10 cases of Females were present in between 40-50 Years of age group. 20 cases of Males and 18 cases of Females were present in between 50-60 Years of age group.

Symptoms	No. of Cases	Percentage
Bleeding gums	30	38.46%
Bad breath	15	19.23%
Dental caries	15	19.23%
Dry moth	8	10.6%
Periodontal infection	10	12.82%
Total	78	100%

Table 2. Number of Cases Based on Symptoms

Table 2 shows no of cases based on symptoms. Out of 78 cases, 30 cases were of bleeding gums i.e. 38.46%. 15 cases were of bad breath i.e. 19.23%. 15 cases of dental caries i.e. 19.23%. 8 cases of Dry mouth i.e. is 10.6% and 10 periodontal cases with 12.82%.

Habits	No. of Cases	Percentage
Tobacco Intake	15	19.23%
Sugar Intake	18	23.07%
Poor tooth brushing	30	38.46%
Local irritants	15	19.23%
Total Cases	78	100%

Table 3. Habits Leading to Dental Complications in Diabetes

Table 3 shows Habits leading to dental complications in Diabetes. Out of 78 cases 15 cases of Tobacco intake with 19.23%, 18 cases of Sugar intake with 23.07%, 30 cases of Poor tooth brushing with 38.46% and 15 cases due to Local irritants with 19.23% were seen.

Risk Factors	No. of Cases	Percentage
Obesity	15	19.23%
Impaired Glucose Intolerance	8	10.25%
Ethnic Background	1	1.28%
Gestational Diabetes	3	3.84%
Family History	6	7.69%
Age	10	12.82%
Sedentary Lifestyle	20	25.64%
Polycystic Ovarian Syndrome	15	19.23%

Table 4. Risk Factors for Diabetes Mellitus

Table 4 shows Risk factors for Diabetes Mellitus. Out of 78 cases 15 cases of obesity i.e. 19.23%, 8 cases of Impaired glucose intolerance i.e. 10.23%, 1 cases of Ethnic background i.e. 1.28%, 3 cases of Gestational Diabetes i.e. 3.84%, 6 cases due to Family history i.e., 7.69%, 10 cases due to Age i.e. 12.82%, 20 cases of Sedentary lifestyle i.e. 25.64% and 15 cases are due to Polycystic ovarian syndrome i.e. 19.23% were seen.

DISCUSSION

According to Garyc et al slow progressive destruction of the periodontium is due to accumulation of lime deposit on the teeth lack of inflammation of the periodontal membrane due to salivary and calculus which in turn leads to gingival recession and there by a pattern of bone loss is established.⁶

Rosa Maria et al reported that low salivary flow rate increases the presence of xerostomia among diabetes mellitus patients compared to the non-diabetic patients. So diabetes is one of the main causes for oral hygiene and destruction of the teeth.⁷

Cortelli et al in their study evaluate the impact of gingivitis treatment on oral health and quality of life. This treatment can improve quality of life and emphasize the relevance of periodontal care for individual's daily life.⁸

Rabbani et al. (1981) reported that in pockets less than 3 mm, complete calculus removal occurred in 75% of the teeth but in pockets deeper than 3 mm, complete calculus removal occurred in only 18% of the teeth. Results from this study demonstrated that in 1 to 3 mm pockets, 86% of all surfaces were completely cleaned of all deposits in both, the only scaling group and the group in which a flap approach was used. This therefore demonstrates that in shallow 1 to 3 mm probing depths, scaling without flap surgery is just as beneficial in terms of calculus removal as scaling in conjunction with a flap.⁹

On the basis of the results of Hirschfield and Wasserman (1978), in which the maintenance of support of teeth is considered a major criterion of success, periodontitis may consider themselves successful in approximately 80% of cases. At this time control of the disease is being evaluated in broader terms than just the elimination of pockets at one period in the patient's lifetime. Maintenance of the treated patient is receiving more and more emphasis. The existence of maintenance programs strongly suggests that following treatment the patient still needs periodic evaluation and care for control of his/her periodontal problems since permanent elimination of the factors causing the disease is not possible at present.¹⁰

CONCLUSIONS

Diabetes is a chronic condition and health care professionals should play an important role to prevent and control it. Diabetes affects the oral health of the people. Therefore it should be prevented by creating awareness amongst the people regarding diabetes mellitus and also create knowledge to control it to prevent oral complications. Diabetic patients should regularly visit dentist in order to reduce oral complications. In order to improve the quality of life both health care professionals and Diabetic patients should emphasize necessity provisions in order to prevent the effect of the disease.

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