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ORIGINAL ARTICLE

Assessing the Medical Health Statistics of Patients in a Dental Institute

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ABSTRACT:

Objective: The study was planned for assessing the medical complications of patients in a dental OPD (Outpatient department). **Methods:** A total of 1260 patients were included in the study further divided into different age groups. A single investigator examined all the subjects and recorded details of medical history using a proforma. The data was analyzed using the SPSS (Statistical Package for Social Sciences). Chi-square test applied to obtain frequencies of medical complications at $p<0.05$. **Results:** It was found that 48.27% of the participants comprised with one of the complication. Among all, hypertension 11.7% was the most prevalent pursued by diabetes mellitus (7.4%) and allergy (7.3%). The frequency of patients with AIDS infection, bleeding disorders, tuberculosis, epilepsy and asthma was quite rare. All the systemic diseases showed significant relation with age except Kidney disease and AIDS. Diseases like asthma, diabetes, heart problems, blood pressure, liver complications, gastrointestinal problems, arthritis, tuberculosis and AIDS was not observed among the age group of 0 to 15 years. **Conclusions:** The outcomes of the study replicate that there were quite high frequency of medical complication in a dental setting. Hence, dentists should take a thorough history before beginning with any dental treatment to avoid complications.

Key Words: Case history, Dental patients, Medical complications.

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INTRODUCTION

Oral health status can significantly affect their general health condition as dental care is an essential component of medical care. [1] Most of the systemic diseases have oral manifestations that are usually the first marker of systemic condition.[2] Dental patients with cardiovascular diseases, especially hypertensive and ischemic heart disease, i.e., have been increasing. Performing dental procedures on these patients could bring about the acute exacerbations of pre-existing cardiac diseases.[3,4]

The compromised medical conditions can amend dental therapies due to their effects on oral soft and hard tissues. Systemically ill conditions can also subordinate patient's tolerance to dental interventions or sometimes limit the capability of a patient to maintain proper oral hygiene care.[5]

Therefore, Dental health need to know in detain about the present and past medical conditions of the patients before planning any treatment as sometimes these conditions may complicate dental treatment.[4,6] Good health records are also a rich source of data which can be useful in research work.[7,8] Numerous authors have also evaluated screening for diabetes in the dental settings.[9,10]

However, in India there are very few studies that have evaluated systemic disease in patients receiving dental treatment.[5,8] Hence this study was conducted to estimate the prevalence of medical conditions among patients coming in a Dental Institution.

MATERIALS AND METHODS

This descriptive epidemiology study was planned among the patients coming to the OPD (outpatient department) in Luxmi Bai Institute of Dental Sciences & Hospital during the period of November 2016 to February 2017. Ethical committee approved the study and all the participants gave a written informed consent before initiating the study.

A simple random sampling technique was applied for finalizing the data and a total of 1260 patients were included in the study following the inclusion criteria. All the patients were sorted out into according to gender (Male-690, female-570) and different age groups: 0-15 years, 16-30 years, 31-45 years, and 46 -60 years.

A single investigator examined all the subjects with a structured proforma prepared in English, which included information on demographic data and other questions on medical history. This integrated with congenital heart diseases, hypertension, asthma, diabetes, epilepsy, kidney diseases, gastrointestinal disease, liver diseases, tuberculosis, allergies, AIDS/HIV infection and bleeding disorders like anemia.

Data was analyzed using the SPSS (Statistical Package for Social Sciences), version 16 (Inc., Chicago, IL, USA). Chi-square test applied to obtain frequencies of medical complications in relation to age and gender. The value of $p<0.05$ was considered as the level of significance.

RESULTS

A total of 1260 study subjects were successively selected for study of this, 690 were males and 570 were females. Their ages ranged between 0 to 60 years, divided into 4 groups: Group I (0-15 years) having 217 subjects, Group II (16-30 years) with 284 subjects, Group III (31-45 years) with 365 subjects and Group IV (46-60 years) with 394 subjects.

In this study, thirteen medical complications were observe screened among the study sample and 48.27% of the participants were found with one of the complication related to their health. Among all the complications, hypertension 11.7% was the most prevalent pursued by diabetes mellitus (7.4%) and allergy (7.3%). The frequency of patients with AIDS/HIV infection, bleeding disorders, tuberculosis, epilepsy and asthma was quite rare as shown in Figure 1.

All the systemic diseases showed significant relation with age except Kidney diseases and AIDS. Diseases like asthma, diabetes, heart problems, blood pressure, liver complications, gastrointestinal problems, arthritis, tuberculosis and AIDS was not observed among the age group of 0 to 15 years. The prevalence of diabetes, hypertension, liver diseases, gastrointestinal problems, arthritis and tuberculosis were significantly increasing with age ($p=0.000$). However there was only a single case of AIDS in the age group of 31 to 45 years (Table 1).

Mostly the results were not significant gender wise apart from hypertension and tuberculosis ($p\leq0.05$). Overall male participants had higher rate of asthma (0.6%), diabetes (4.2%), hypertension (8.9%), liver diseases (1.7%), kidney diseases (1.1%), arthritis (3.0%), tuberculosis (0.9%), and allergy (4.0%). However rest of the screened complications were more among female participants as exemplified in Table 2.

Figure1: Prevalence of systemic conditions among study subjects

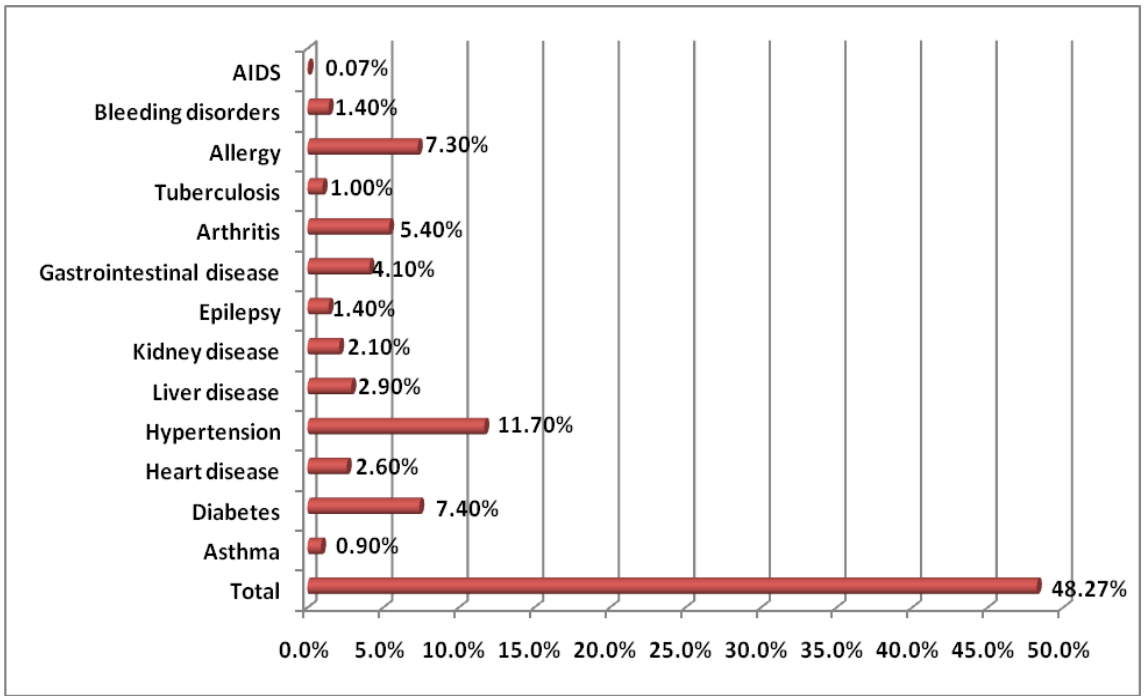

Table 1: Distribution of study subjects with various systemic conditions in different age groups

Systemic Conditions	Group I (0-15 yrs)	Group II (16-30 yrs)	Group III (31-45 yrs)	Group IV (46-60 yrs)	p-value
Asthma	0 (0%)	2(.2%)	8(.6%)	2(.2%)	0.043
Diabetes	0 (0%)	4(.3%)	31(2.4%)	59(4.7%)	0.000
Heart disease	0 (0%)	0 (0%)	14(1.1%)	20(1.6%)	0.000
Hypertension	0 (0%)	0 (0%)	39(3.1%)	99(7.8%)	0.000
Liver disease	0 (0%)	4(.3%)	14(1.1%)	20(1.6%)	0.000
Kidney disease	2(.2%)	6(.5%)	12(1.0%)	6(.5%)	0.197
Epilepsy	6(.5%)	9(.7%)	3(.3%)	0 (0%)	0.000
Gastrointestinal problems	0 (0%)	7(.5%)	19(1.5%)	27(2.1%)	0.000
Arthritis	0 (0%)	0 (0%)	24(1.9%)	44(3.5%)	0.000
Tuberculosis	0 (0%)	0 (0%)	10(.8%)	13(1.0%)	0.000
Allergies	12(1.0%)	33(2.6%)	29(2.3%)	18(1.4%)	0.004
Bleeding disorders	6(.5%)	4(.3%)	8(.6%)	0 (0%)	0.019
AIDS	0 (0%)	0 (0%)	1(.07%)	0 (0%)	0.178

Table 2: Distribution of study subjects with various systemic conditions according to gender

Systemic Conditions	Male	Female	p-value
Asthma	8(.6%)	4(.3%)	0.506
Diabetes	53(4.2%)	41(3.2%)	0.495
Heart disease	16 (1.2%)	18(1.4%)	0.255
Hypertension	102(8.9%)	36(2.8%)	0.004
Liver disease	21(1.7%)	17(1.3%)	0.344
Kidney disease	14(1.1%)	12(1.0%)	0.539
Epilepsy	7(.5%)	11(.9%)	0.410
Gastrointestinal disease	23(1.8%)	30(2.3%)	0.385
Arthritis	38(3.0%)	30(2.4%)	0.475
Tuberculosis	11(.9%)	2(.1%)	0.023
Allergies	51(4.0%)	41(3.3%)	0.491
Bleeding disorders	8(.6%)	10(.8%)	0.258
AIDS	0 (0%)	1(.7%)	0.408

DISCUSSION

Recording a detailed medical history is a skill of gathering appropriate information of patient's health status. It can also show the unhidden part of the iceberg below the water level denoted as subclinical, undiagnosed cases in the community. The practice of taking medical history at the time of dental examination helps in providing a basis for determining whether dental treatment is going to affect the general health of the patient.[11]

The present data showed the occurrence of medical problems as 48.27%. Saengsirinavin et al reported a little higher percentage (55.45%) among Thai dental patients.[12] However the values of some previous studies ranged from 10% to 69% depending upon the social and cultural backgrounds of the subjects.[8,13,14] Rhodus et al conducted study among dental patients and found that the occurrence of medical conditions increased from 7.3 percent in 1976 to 24.6 percent in 1986.[15]

In the present study, hypertension, diabetes and allergy were the most common diseases affecting study population. Hypertension and diabetes play a significant role in planning dental treatment. Dental professional can't perform the surgery of the patient with uncontrolled diabetes and high blood pressure.[8] This study was in consistence with the results of majority of the authors.[16,17]

Lakhani et al also stated that hypertension (50%) was most widespread medical condition among patients advised for extraction.[18] Whereas the study done by Sachdeva et al mentioned that the most common medical conditions were gastrointestinal disorders and hypertension. Similarly Gaphor SM et al recorded gastrointestinal complications as

most common (14%) in patients attending Shorish Private Dental Specialty.[19]

In another study it was declared that diabetes was the most commonly observed condition (7.4%), trailed by hypertension (5.4%) & anaemia (3%).[20] Allergies of various sorts were commonly noticed in the current data (7.3%). Dhanuthai et al[21] and Abuabara et al[22] also mentioned in their studies that allergies were the most common medical problems.

The cases of arthritis were 5.4% in this study and the number was similar to the studies conducted by Al-Bayaty HF et al[23] and Aggarwal A et al.[24] On the other hand, Sachdeva et al and Radfar et al reported high prevalence rate of arthritis in their study subjects.[25]

Most of the complications like diabetes, hypertension, liver diseases, gastrointestinal problems, arthritis and tuberculosis were significantly increasing with age and the findings were correlated with other studies.[8,19,26] In the age group of 0 to 15 years none of the patients had diseases like asthma, diabetes, heart problems, blood pressure, liver complications, gastrointestinal problems, arthritis, tuberculosis and AIDS. Similarly Sachdeva et al also declared that hypertension, diabetes, renal, malignancy, drug allergy, bleeding, cardiovascular diseases, AIDS were absent among young subjects in their study.[8]

The study has few limitations as the study was conducted in India a developing country where most of the people do not undergo for routine medical screening unless and until there is a problem. Also, patients usually do not give appropriate information to the dentist, as they resume that this is not reluctant for dental therapy.

CONCLUSION

The results disclosed significance of taking adequate history in a Dental OPD as around half of the subjects were screened with one of the systemic disease. The most frequent systemic problems were hypertension 11.7%, diabetes mellitus (7.4%) and allergies (7.3%) and almost the prevalence was increasing with age. Therefore, dentists must take a thorough medical history before scheduling treatment for safety measures in dental practice.

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