

Prevalence of Medical Problems in Dental Out Patients in Karachi

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ABSTRACT

Objectives: To investigate the prevalence of patients suffering from medical conditions who present at the dental hospital seeking treatment for their dental problems and to explore the association of gender with medically compromised dental patients.

Materials and Methods: This is a retrospective study. The records of a total of 3087 patients reporting at the outpatient of Dr. Ishrat-ul-Ebad Khan Institute of Oral Health Sciences from 1st January to 31st March 2011 were reviewed for the presence of medically compromised conditions. Medically compromised conditions were categorized into eight modalities like cardiovascular diseases, asthma, anemia, liver diseases, endocrine disorders, renal diseases, epilepsy and infectious diseases.

Results: Out of 3087 patients; 426 (13.7%) patients were suffering from different medical conditions. The age range of the recorded patients was 1-90 years with a mean age of 34.14 (S.D \pm 16.07 Years). One hundred and eight (43%) males and 246 (57%) females were attending the OPD (DIKIOHS) making male to female ratio 1- 1.36. Among them cardiovascular diseases 387 (90.81%) were the most prevalent, followed by endocrine disorder 188 (44.13%), liver disease 49 (11.50%), renal diseases 81 (19.01%), anemia 77(18.07%), asthma 75 (17.62%), infections 43 (10.09%), and epilepsy 16 (3.75%).

Conclusion: Despite the fact that prevalence of medically compromised conditions in dental patients is not high, dentists should go through history form and perform careful clinical examination before starting any dental treatment. We recommend that dental students must be trained adequately to deal with medically compromised patients and be also able to deal with medical emergencies.

Key words: Medically compromised patient, dental treatment, emergency management .

INTRODUCTION

Better access to the health care facilities around the globe together with tremendous scientific advancement in recent years has enabled people to live longer with better oral hygiene as reported from many countries.¹⁻² As a result, dental clinics are anticipating to treat more elderly patients with intact dentition as the number of elderly patients increases the chances of treating patients with medical condition also increases, it is therefore necessary for dentist to know the effects of dental treatment on these medical conditions and the complications that can take place.³⁻⁵

The objective of this study was to investigate the prevalence of patients suffering from medical conditions who present at dental hospitals seeking treatment for their dental problems and to explore the association of gender with medically compromised dental patients.

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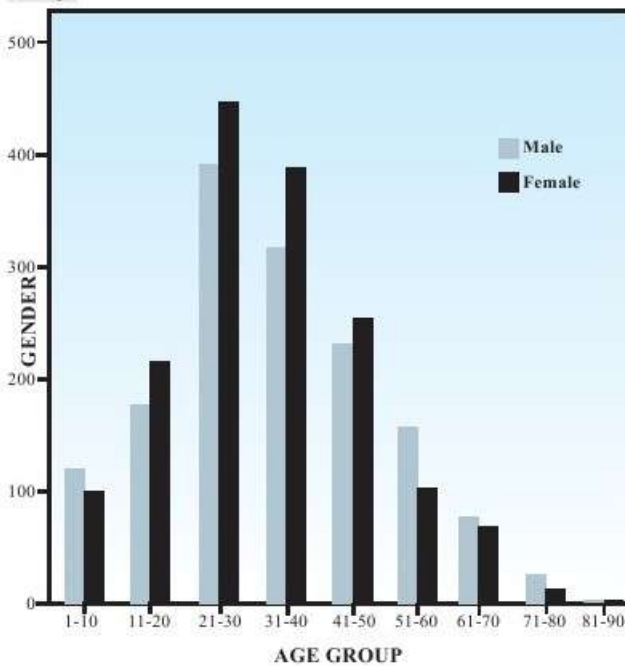
MATERIAL AND METHODS:

This is a retrospective study in which the records of patients attending dental outpatient of Dr. Ishrat ul Ebad khan Institute of Oral Health Sciences (DIKIOHS) in the first quarter of 2011 from 1st January to 31st march were retrieved and analyzed for medical conditions. The sample size of 3087 was achieved by including all patients attending OPD of DIKIOHS. The hospital standardized history form was used to retrieve data on demographics and medical conditions present in patients attending outpatient of Dr. Ishrat ul Ebad khan Institute of Oral Health Sciences (e.g. Cardiovascular diseases, anemia, endocrine disorders, asthma, liver diseases, renal diseases, infections and epilepsy). The data was entered on SPSS version 16.0. The data was analyzed by using descriptive statistics. Frequency distribution, mean and standard deviation of each variable was computed. Chi-square test was being used to establish associations. A p-value less than 0.05 was considered statistically significant. All diseases were recorded individually as a single entity even if they existed together in a single patient. If any entry in the record like age, sex, or medical condition was not properly entered, they were excluded.

Table 1: Frequency Distribution of Different Medical Condition in Dental Patients

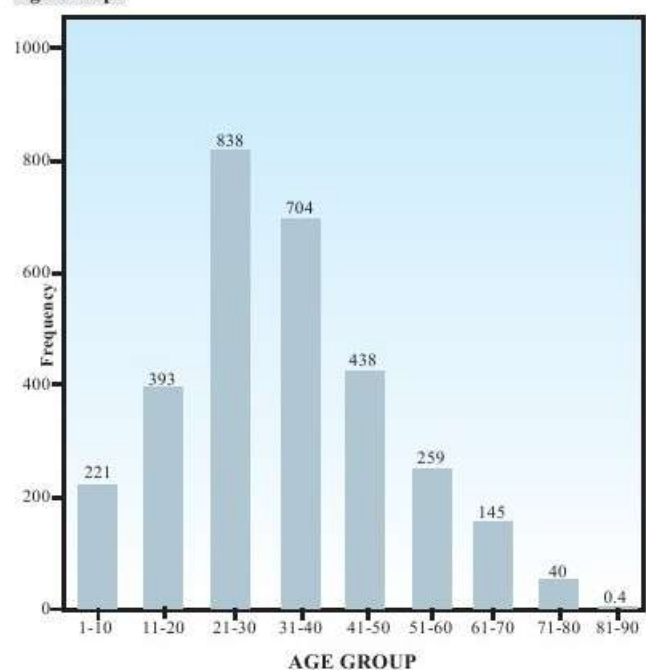
S.No.	Diseases	Total Patients	Males Total	Females Total	Male To Female Ratio	Male To Female Ratio
1.	Cardio Vascular Diseases	387	132	237	1:1.58	1:1.58
2.	Endocrine Disorder	188	72	116	1:1.61	1:1.61
3.	Renal	80	45	35	1:1.28	1:1.28
4.	Anemia	77	16	61	1:3.81	1:3.81
5.	Asthma	74	32	42	1:1.31	1:1.31
6.	Infection	43	19	24	1:1.26	1:1.26
7.	Epilepsy	17	10	7	1:0.7	1:0.7
8.	Liver Disease	14	9	5	1:0.5	1:0.5

Figure 1: Gender Distribution of Medical Conditions in Different Age Groups



The above mentioned figure1, showed the prevalence of different medical condition in different age groups. It revealed that as the age increases the prevalence of medical conditions are also increasing especially among females. This trend was observed during 2nd, 3rd, 4th and 5th decades of life and was reverse during 6th, 7th and 8th decades of life.

Figure 2: Frequency Distribution of Medical Conditions in Different Age Groups



The above mentioned figure showed the distribution of different medical conditions among various age groups. It was observed that different medical conditions were mostly prevalent in 3rd and 4th decade of life.

RESULTS

In the first quarter of the year 2011 from 1st Jan to 31st March, record of a total of 3,087 patients was retrieved. The age of the recorded patients ranged from 1 year to 90 years mean age was 34.14 year with standard deviation \pm 16.07 years. Out of three thousands and eighty seven, 426 (13.79%) patients were presenting with different medical conditions. There were 180 (43%) males and 246 (57%) females, the male to female ratio was 1:1.36. The number of female patients who had medically compromised conditions was statistically higher than that of male patients ($p=0.000$). In almost all categories of medical conditions females were

presenting more than males except for renal diseases. Among them cardiovascular diseases 387 (90.81%) were the most prevalent, followed by endocrine disorder 188 (44.13%), renal diseases 80 (19.01%), anemia 77(18.07%), asthma 75 (17.62%), infections 43 (10.09%), epilepsy 16 (3.75), liver disease 14 (3.2%) In cardiovascular diseases, Hypertension was the most commonly encountered disease entity accounting for 312 (73.23%) patients, followed by diabetes 162 (38.02%) patients.

The majority of medically compromised patients were in their 3rd and 4th decade (Figure 1).

DISCUSSION

Due to the fact that the population is getting older and to new medical and dental techniques, the number of medical complications during treatment is tending to increase. In order to avoid these complications a correct clinical history should be obtained of all these patients.⁶ In this study there were 426 patients amounting to 13.79% who were classified as medically compromised. This study results were similar to the study conducted by Kittipong in 2009 which showed 12.2% medically compromised patients.⁷ The reason for this might be due to the fact that both studies recruited patients across a wide age range rather than emphasizing on older age group patients.

Smeets et al revealed that prevalence of medically compromised patients from the survey of dental patients to be 28.2%. Saengsiravin et al reported in dental patients the prevalence of medical conditions to be 55.45%. Smeets et al and Saengsiravin et al study results were contrary to this study results which showed 13.79% medically compromised patient results.⁸⁻⁹ Other researchers found a range from 24.60% to 68.5% which is higher than this study results.¹⁰⁻¹²

There can be many reasons attributed to this, firstly in developing countries such as Pakistan most of the patients do not undergo routine medical check-ups. As a consequence, patients harbor asymptomatic medically compromised conditions without realizing the fact that they have medically compromised conditions.⁷ The other important factor is that this study relied on the history from entries of people who are not aware of what medicine they are taking and for which disease therefore they were unable to communicate as effectively as people in developed world where similar studies were conducted.

Cardio Vascular systemic disease and endocrinological disorders were the most common conditions in this study; 90.61% and 44.13% respectively. This study results were in accordance to Steel results which confirms the established fact that they are the most commonly occurring disease of the elderly population the world over.¹ Hypertension in cardio vascular diseases and diabetes mellitus in endocrine disorders were the first and second most common conditions in our study followed by others.

Chandler reported that second most frequent medical risk related history group suffered from drug-related allergy. These findings are contrary to this study results which showed the endocrinological disorders especially diabetes mellitus as the second most common medically compromised condition in dental patients.⁶

More females were medically compromised than males in this study as evident from male to female ratio 1:1.36. This study results were in accordance to Kittipong results which showed female preponderance with a ratio of (female: male ratio=1.5:1).⁷ This study also showed an interesting fact that as the age increases the prevalence of medical conditions were also increased especially among females. This trend was observed during 2nd, 3rd, 4th and 5th decades of life and was reverse during 6th, 7th and 8th decades of life. The reason might be that females in child bearing age have obstetrics checkups therefore any underline medical condition is documented.

As the number of medically compromised patients reporting for dental treatment is increasing, this study will help to prepare dental surgeons for taking care of this segment of patient population. The first step should be proper meaningful history taking so that medical conditions are not missed out. Care must be taken that they are properly recorded.^{6,13-14}

Training of dental students and continuing dental education for dentists in the management of dental treatment for medically compromised patients should be made mandatory part of dental curriculum as the literature shows concern about the ability of dentists to handle medical emergency¹⁵⁻¹⁷ together with this, special treatment areas must be set so as to reduce anxiety specially for hypertensive patients and special consideration must be given to patients recovering from myocardial infarction.¹⁸⁻²⁰

In order to obtain more reliable results, it is necessary to conduct further studies. It would be advisable to evaluate greater number of patients at different dental hospitals for longer period. It is important to include other variables such as; socio economic status, detailed cardio vascular systemic disease with stages and including other endocrinological disorders, and different types of allergies.

CONCLUSION

Within the limitation of this study the conclusion drawn is that the Medical risk related history can play an important role in adapting dental treatment according to specific medical conditions of patient. This is especially important in the case of elderly patients. Importantly dentist must be trained to take proper history, must be aware of the medications used by the patients, The treatment area must be equipped with all facilities needed to manage medical emergencies especially cardiac emergencies.

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