

## PREVALENCE OF SYSTEMIC DISEASES IN PATIENTS SEEN AT ORAL MEDICINE DEPARTMENT

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### ABSTRACT

*Patients at the present have an extended anticipation, because of the enhancement in health science. Further systemic and oral diseases are predisposed with increase in age. Patients who get dental treatment in dental hospital or clinic might have systemic diseases and maybe they are on medication. Many of these systemic conditions have manifestations in the oral cavity. The aim of dental management is to provide therapy with no complication in such patients. The purpose of the present study was to find out the frequency of systemic diseases in patients who were seeking for dental treatment in Oral Diagnosis & Medicine Department of Sir Syed Dental Hospital, Qayummabad, Karachi, Pakistan. The data were collected in two months duration (August to September 2017). Male (70) and female (137) patients of age range from 2 to 70 years old were analyzed through medical records.*

**Key word:** Systemic Diseases, Medically Compromised Patients, Medical Conditions, Oral Medicine, Prevalence.

### INTRODUCTION

Oral health care is an essential part of medical care. The negligence of oral hygiene may result in serious illness which may affect the quality of life of an individual.<sup>1-2</sup> In last few decades the scientific innovation made the life easier, but at the same time the people became away from physical exercise and balance dietary pattern therefore huge number of patients suffer from medical conditions, those may be the dental treatment seekers. It is prime responsibility of the dentist that he/she should manage their patient's effectively.<sup>3</sup>

For patients who are suffering from systemic diseases requires some amendment in treatment planning or material in order to avoid possible interaction with their existing medications or systemic and oral health stability.<sup>4</sup>

Patients who visit dental hospital or clinic do not constantly give information regarding their past medical history, generally because they don't think it is import-

ant or don't consider it related to their oral diseases. A sufficient medical education and taking comprehensive medical history, which should incorporate past medical and drug history of the patient, and questioning about the general health are crucial in order to identify patient with related systemic disease in order to avoid the hazards resulting from dental management.<sup>5</sup> This study was undertaken with an aim to verify the prevalence of systemic diseases among the patients of Sir Syed Dental Hospital, to provide feedback to the patients so that they can seek a physician accordingly if the treatment is required and also to understand the preventive strategies that should be undertaken in the control of a disease which can lead to serious consequences.

### METHODOLOGY

This study comprised of patients seen at Oral Diagnosis and Medicine Department, Sir Syed Dental Hospital (SSCMS), Karachi, Pakistan who had dental checkups in 2 months duration of (August and September 2017). Ethical approval was obtained from ethics committee of SSCMS. Two hundred seven patients of both genders, ranging in age from 2 to 70 years formed the study group and out of which, record of patients with different systemic diseases based on their medical history were obtained and their data were analyzed by SPSS software 17 version.

### RESULTS

Present study consisted of 70 males and 137 females patients. Mean ages of both genders were 39 and 3 each

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TABLE 1: GENDER DISTRIBUTION

| Gender | N   | Age in years |          |          |     | Mean age | Total % |
|--------|-----|--------------|----------|----------|-----|----------|---------|
|        |     | <20          | 21 to 40 | 41 to 60 | >61 |          |         |
| Male   | 70  | 2            | 32       | 20       | 10  | 38.6     | 35%     |
| Female | 137 | 22           | 81       | 35       | 5   | 33.0     | 65%     |
|        | 207 | 24           | 113      | 55       | 15  | 35.8     | 100%    |

TABLE 2: PREVALENCE OF SYSTEMIC DISORDERS ACCORDING TO AGE GROUPS. STATISTICALLY SIGNIFICANT\*

| Systemic Diseases    | Age groups in years |      |          |       |          |      |     |      | p-value (chi-square test) |
|----------------------|---------------------|------|----------|-------|----------|------|-----|------|---------------------------|
|                      | <20                 | N=24 | 21 to 40 | N=113 | 41 to 60 | N=55 | >60 | N=15 |                           |
| Diabetes mellitus    | 0                   | 0    | 2        | 1     | 12       | 5.7  | 10  | 4.8  | 0.00*                     |
| Asthma               | 2                   | 1    | 2        | 1     | 0        | 0    | 2   | 1    | 0.15                      |
| Hypertension         | 2                   | 1    | 21       | 10    | 12       | 5.7  | 2   | 1    | 0.50                      |
| Tuberculosis         | 0                   | 0    | 0        | 0     | 2        | 1    | 0   | 0    | 0.13                      |
| Hepatitis c          | 0                   | 0    | 0        | 0     | 2        | 1    | 0   | 0    | 0.13                      |
| Arthritis            | 0                   | 0    | 0        | 0     | 2        | 1    | 0   | 0    | 0.13                      |
| Anemia               | 0                   | 0    | 0        | 0     | 4        | 2    | 0   | 0    | 0.00*                     |
| Chikungunya          | 0                   | 0    | 0        | 0     | 0        | 0    | 1   | 0.48 | 0.00*                     |
| Renal disease        | 0                   | 0    | 2        | 1     | 0        | 0    | 0   | 0    | 0.64                      |
| Heart disease        | 0                   | 0    | 0        | 0     | 2        | 1    | 2   | 1    | 0.06                      |
| Meningitis           | 1                   | 0.48 | 0        | 0     | 0        | 0    | 0   | 0    | 0.10                      |
| Liver disease        | 0                   | 0    | 2        | 1     | 1        | 0.48 | 0   | 0    | 0.87                      |
| Peptic ulcer         | 0                   | 0    | 2        | 1     | 2        | 1    | 0   | 0    | 0.65                      |
| Intestinal dysplasia | 0                   | 0    | 1        | 0.48  | 0        | 0    | 0   | 0    | 0.84                      |

TABLE 3: INTER-AGE GROUPS AND GENDER COMPARISON OF SYSTEMIC DISEASES. STATISTICALLY SIGNIFICANT\*

| Compared age groups | Group 1 <20 | Group 2 21 to 40 | Group 3 41 to 60 | Group 4 >60 | p-value |
|---------------------|-------------|------------------|------------------|-------------|---------|
| Group 1 and Group 2 | 6           | 30               | -                | -           | 0.87    |
| Group 1 and Group 3 | 6           | -                | 39               | -           | 0.00*   |
| Group 1 and Group 4 | 6           | -                | -                | 17          | 0.00*   |
| Group 2 and Group 3 | -           | 30               | 39               | -           | 0.00*   |
| Group 2 and Group 4 | -           | 30               | -                | 17          | 0.00*   |
| Group 3 and Group 4 | -           | -                | 39               | 17          | 0.12    |
| Male                | 2           | 8                | 10               | 14          | 0.65    |
| Female              | 4           | 28               | 28               | 2           |         |

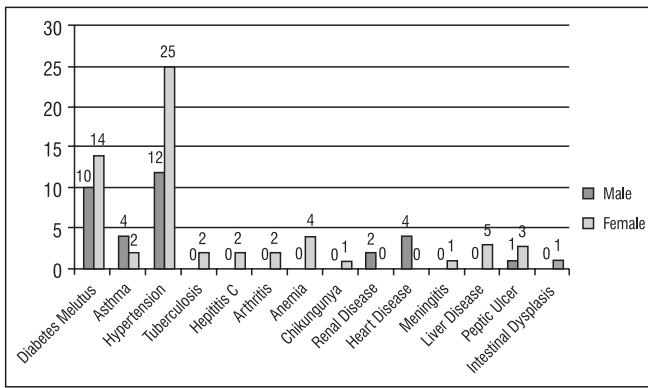


Fig 1: Systemic Diseases Among Study Participants

respectively with age ranging from 2 to 70 years (Table 1). Out of 207 patients, 114 patients i.e. 55% had no significant medical history whereas 93 patients (45%) had significant medical history in which hypertension was the most predominant medical condition followed by other diseases (Fig 1). Frequencies of different medical disorders in various age groups among males and females patients are shown in Table 2 and Table 3, respectively. When comparing systemic diseases between age groups, it was found that patients below 20 year had systemic diseases lesser than old aged patients.

## DISCUSSION

Oral manifestations of systemic diseases are possible indicators of a group of conditions. In fact the oral cavity is a mirror that shows human body's inner secrets. Several of these manifestations are disease particular and help raise a high degree of doubt among the clinician. The prevalence of systemic diseases in patients who visited Sir Syed Dental Teaching Hospital was 45%. Females were mostly found with systemic disease after taking detail medical history and the incidence was greater between 21 to 40 year old patients. These results are consistent with results of other studies which reported similar results.<sup>6-7</sup>

Hypertension was the most common disease noted in this study. The results of the present study are comparable to other studies.<sup>5,3,8,10,16</sup> In United States about 50 million people have hypertension. It is one of the essential risk factor for cardiovascular diseases and stroke; the most important cause of illness today.<sup>8</sup> National Health Surveys in Pakistan have revealed that one out of each third individual above the age of 45 is hypertensive.<sup>8</sup> Oral changes mainly observed in hypertensive patients are gingivitis, periodontitis, lichenoid reactions, hypo salivation and facial nerve paralysis.<sup>9</sup>

In this study diabetes mellitus was the second most common disease; other authors also reported it among the common diseases.<sup>3,8,10</sup> Anitha et al verified

that the cardiovascular and periodontal diseases are related with each other. Periodontal disease is also the 6th most common result of diabetes mellitus.<sup>10</sup> Other reported oral manifestation of diabetes are burning sensations, candidiasis, dental caries, lichen planus, neurosensory dysaesthesia, salivary dysfunction, xerostomia and halitosis.<sup>11</sup>

India and other countries in Asia are having common occurrence of diabetes and cardiovascular diseases. In the 1998 National Health Survey, the occurrence of diabetes mellitus was more in Indians (12.9 percent), followed by Malays (9.3 percent) and Chinese (8.1 percent).<sup>12</sup> According to a 2011 WHO report 12.9 million people in Pakistan had Diabetes Mellitus.

Whereas rest of the systemic diseases in the present study such as asthma, anemia, liver diseases, peptic ulcer, tuberculosis, renal disease, arthritis, hepatitis C, Chikungunya, meningitis and intestinal dysplasia had the lowest prevalence. With an increase in lifetime, the dentist will be treating medically compromised patients. Even though medical emergencies are uncommon in dentistry they can arise during or as a result of a dental procedure, and they may have a serious result. Recognition of the systemic disease is of great importance to take the essential precautions and to avoid life-threatening circumstances.<sup>14</sup> In addition, Dentists must be competent enough to treat medically compromised patients and have an advanced awareness of the treatment procedure for a variety of systemic diseases.<sup>15,16</sup> Emergency treatment facilities must be available in every dental clinic.

## CONCLUSION

There is a higher prevalence of systemic diseases in patients visiting Oral Diagnosis and Medicine Department for dental treatment. Therefore, a comprehensive medical history and careful clinical examination is obligatory before the start of any dental treatment. This will lead to categorize patients with underlying medical condition and will not only result in modifying dental treatment but also most significantly establishing suitable management in order to prevent any emergency.

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#### CONTRIBUTIONS BY AUTHORS

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| <b>1 Mahreen Shahzad:</b>  | Conception and design of research, literature search, data collection, drafting of article and final review. |
| <b>2 Yousuf Moosa:</b>     | Statistical analysis, data analysis, drafting of article.  |
| <b>3 Sumita:</b>           | Literature search and data collection.   |
| <b>4 Ajeet kumar:</b>      | Proof reading and Review.  |
| <b>5 Maimoona Mushtaq:</b> | Work Editing, Data Interpretation.   |
| <b>6 Farhan Aziz:</b>      | Proof reading and Review.  |