Periodontal health awareness in diabetic and non-diabetic patients; a questionnaire study

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Abstract

The purpose of this study was to assess periodontal health factors associated with poor oral health. Total of 218 patients participated in this study for the duration of six months. It was a questionnaire based study. Gingival swelling, bleeding, abscess, tooth mobility, teeth spacing, change in occlusion, periodontal tooth loss and systemic disease diabetes was evaluated. Results show that majority of patients show signs of poor oral hygiene leading to poor oral health and there is a significant association between diabetes and poor oral hygiene. It is important that health care providers spread awareness regarding periodontal health and drastic outcomes of poor oral health.

Keywords: Periodontal health, Poor oral health, diabetes, tooth loss.

Introduction

Oral health is the major resource of social, economic and personal development of individual.1 Poor oral health may inflict demoralization, dampen social relations, lead to chronic stress and depression plus high financial cost require to treat such conditions. Hence, it is justifiable to say that oral health status reflects general health and quality of life.2, 9 Previous research has identified that poor oral health can trigger diabetes, cardiovascular and respiratory diseases, bacterial pneumonia, low birth weight babies and a number of other conditions.3,4 Study from Iran suggests that poor oral hygiene practices or tooth loss is associated with higher risk of esophageal squamous cell carcinoma (ESCC).6 Poor oral health can constrict adults to express their emotions which in turn can impact their self-concept as well as their social interactions.8 Davis et al in 2000 suggested that tooth loss can make patients deprived emotionally and socially.5 Pakistan is facing enormous oral health challenges in the 21st century.7 In 2006 there was a survey conducted in deprived state of Karachi according to which almost half of the participants had complaint of tooth ache, esthetics issue, and difficulty in chewing precisely poor oral health.10 Diabetes is one of the most common diseases in Pakistan. It is estimated that Pakistan has the seventh largest diabetic population and it will be fourth largest by the year 2030.12 People with diabetes are at higher risk of developing oral health problems.11 The purpose of this article was to evaluate the current status of periodontal health, and all the possible factors related to
poor oral health as it acts as a causal risk factor for systemic diseases. Out of 218, only 27(12.4%) participants have diabetes but 64(29.4%) participants have history of family diabetes (table 4).

**Materials and methods**

A descriptive cross-sectional study of 218 patients was conducted in Dr Ishrat ul Ebad khan Institute of Oral Health Sciences/ Dow University of health sciences for a duration of six months. Verbal consent was taken from each patient. Participants were requested to fill the questionnaire to obtain status of oral health consisting of twelve questions which has to be answered in either yes or no manner. Sample selection was based on inclusion criteria that included patients more than 18 years of age, one or more missing teeth, both male and female, and patients suffering from diabetes whereas patients who are mentally and physically handicapped, drug addiction, temporomandibular joint disorder were excluded from the study. The data collected on questionnaire was entered in (SPSS 17) for statistical analysis. Microsoft Access and Microsoft Excel were used to process the obtained results.

**Results**

Patients ranged in age from 18-50 years with mean age 30.24 with S.D. of ± 8.34 years (table 1). Gender distribution is illustrated in Fig 1. Almost all respondents opted no (67.9%) for gingival bleeding, (70.6%) for gingival abscess and (73.9%) for gingival swelling (table 2). Regarding tooth condition (19.3%) respondents complains of tooth mobility, (26.1%) complains of tooth loss, (28.0%) complains of teeth spacing and (23.9 %) participants complain of occlusal change (table 3).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Gingival Bleeding</td>
<td>70(32.1%)</td>
</tr>
<tr>
<td>Gingival abscess</td>
<td>64(29.4%)</td>
</tr>
<tr>
<td>Gingival swelling</td>
<td>57(26.1%)</td>
</tr>
</tbody>
</table>

**Table 1: Patients ranged in age**

<table>
<thead>
<tr>
<th>Age</th>
<th>No. of pts</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>218</td>
<td>18</td>
<td>50</td>
<td>30.2</td>
<td>8.34</td>
</tr>
</tbody>
</table>

**Table 2: Gingival condition (majority of pts had no gingival problems)**
Table 3: Tooth Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Teeth mobility</td>
<td>42(19.3%)</td>
</tr>
<tr>
<td>Teeth spacing</td>
<td>61(28.0%)</td>
</tr>
<tr>
<td>Periodontal tooth loss</td>
<td>57(26.1%)</td>
</tr>
<tr>
<td>Occlusal change</td>
<td>52(23.9%)</td>
</tr>
</tbody>
</table>

Discussion

Maintenance of oral hygiene is known to be an integral component of the oral health. The findings of this study showed that most of the patients were females 64.8% (fig 1), in comparison with other studies on oral health which showed male predominance. Current evidence show satisfactory gingival condition, only 29.4%, 32.1% and 26.1% participants complains of gingival abscess, gingival bleeding and gingival swelling (table 2). Other studies show acute and chronic cases of gingivitis. Gingivitis is the first alarming sign of poor oral health, ignorance can aggravate the condition.

Table 3 presents tooth condition of subjects participated in current study, 28.0% complains of teeth spacing and 23.9 % participants complain of occlusal change, Geiger AM et al study also supports our results, irregularities of teeth have been considered to provide a poor environment for maintaining oral hygiene and gingival health. The loss of one or more natural teeth often results in disability, decreased social interaction because of embracement; it is considered as a prime clinical indicator in changing perception of oral health. Findings of our study show 26.1% subjects loss their teeth because of poor oral health. In present study twenty seven patients have history of diabetes out of which seventeen have suffered tooth loss which clearly indicates a close relationship between oral health status and diabetes (table 5), past researchers proven that uncontrolled diabetes can intensify the chance of periodontitis and tooth loss. Oral complications associated with diabetic patients can be controlled by practicing good oral hygiene measures and keeping healthy oral cavity. It has been said that regular dental checkups and treatment are the cornerstones of good oral health.

Conclusion

In the last twenty years, oral health has improved dramatically but Pakistan being a below average literacy rate country it is important that healthcare professionals as well as dental fraternity make policies and programs which solely focus on oral health care awareness.

References


