

## EXPLORING THE RELATIONSHIP BETWEEN AGE, GENDER, TOOTH NUMBER, AND DENTAL CARIES PREVALENCE IN PAKISTAN

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**Abstract:**

*Dental caries are major inflicting factor for oral and dental complications around the globe, particularly in countries with poor oral hygiene. The possible reasons behind the prevalence of dental caries need to be investigated so that oral hygienic measures could be designed, promoted and implemented. The main objective of present study was to investigate the oral health of the patients coming to Allied Hospital Faisalabad, Pakistan to find any correlation of the prevalence and severity of dental caries with age, gender and tooth number. The results suggested that the high prevalence of caries is present in the permanent lower right first molar tooth of the females residing among young adulthood age group of 18 to 29 years. These findings indicate the need of oral health awareness programs to create awareness in society related to oral hygiene.*

**Keywords:** *Dental caries, Oral hygiene, Age, Female.*

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**INTRODUCTION:**

Dental caries act as inflicting factors for a lot of major dental and oral complications. Its implications are far more prevalent in developing countries like Pakistan due to limited health care facilities, increasing population and lower literacy rate. Dental caries is an infectious microbiological disease that leads to localized dissolution and destruction of the calcified tissues of teeth [1]. It can affect the children, adults and aged people equally, but severity level differs among all age groups [2]. It comprises of an alternating demineralization and remineralization phases, occurring simultaneously in the same lesion [3]. Its cumulative nature made it more complex with advancing age [4]. National Oral Health Survey of Pakistan reported that a large proportion of people in Pakistan have limited or no access to basic oral health facilities in both public and private settings which is a leading cause of prevailing oral infections [5]. According to this report every individual of age group 12-15 years, suffers an average loss of two or three teeth because of dental caries. Generally, it is accepted that people from lower socio-economic status have greater levels of dental caries [6]. In terms of time and money, repairing and replacing decayed teeth are cost expensive and are major drains on healthcare resources [7]. Untreated dental caries are significantly higher among adults [8]. American Psychological Association (PsycINFO) offers an Age group field including childhood(0-12), Adolescence (13-17), Young Adulthood (18-29), Thirties (30-39), Middle Age (40-64), Aged (65+) for psycho-clinical studies. Lifestyle choices related to individual's personality and oral hygiene behaviour formed in adolescence continue in adulthood [9]. Lack of social awareness about oral health in early ages develops to severe consequences in adulthood. That's why adults were high in number who approached the hospitals for caries treatment [10]. This study was conducted in the Dental Section of Allied Hospital Faisalabad, Pakistan and being the major public hospital for the periphery areas of Faisalabad, a large number of patients visits the OPD for the treatment of their routine oral health problems. The main objective of this study was to evaluate the frequency of dental caries among people in correlation to their gender, age group and tooth number.

**MATERIALS AND METHODS:**

This is a descriptive hospital based survey involving a total of 568 subjects. Out of 4163 patients coming to the Operative Dentistry Department of Allied Hospital Faisalabad in time period from 1 December

2017 to 31 January 2018 with complaint of pain in carious teeth, a total of 568 patients (314 females, 254 males) whose teeth can be restored were selected for research analysis. Selection was based on dental examination performed in accordance with World Health Organization (WHO) [11]. Patients were categorized in age groups devised by American Psychological Association.

**Inclusion Criteria**

1. Patients who gave verbal consent.
2. Patients suffering from dental caries with restoreable teeth.

**Exclusion Criteria**

1. Patients who refused to participate in the research study.
2. Patients with grossly carious teeth advised for extraction.
3. Dental caries involving pulp.

**Data Collection**

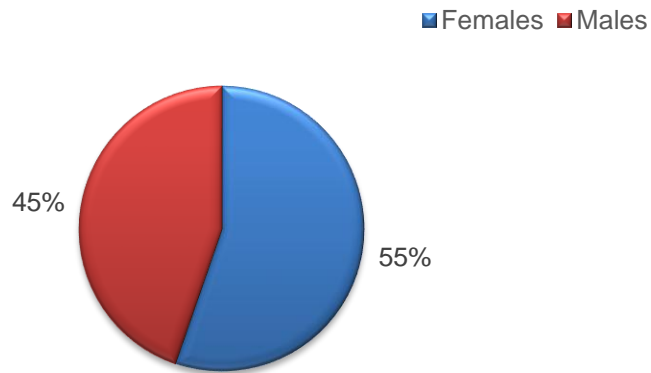
Patients coming to Operative Dentistry Department of Allied Hospital Faisalabad, Pakistan were selected, and an informed verbal consent was obtained from these patients to take part in the research study.

**Data Analysis**

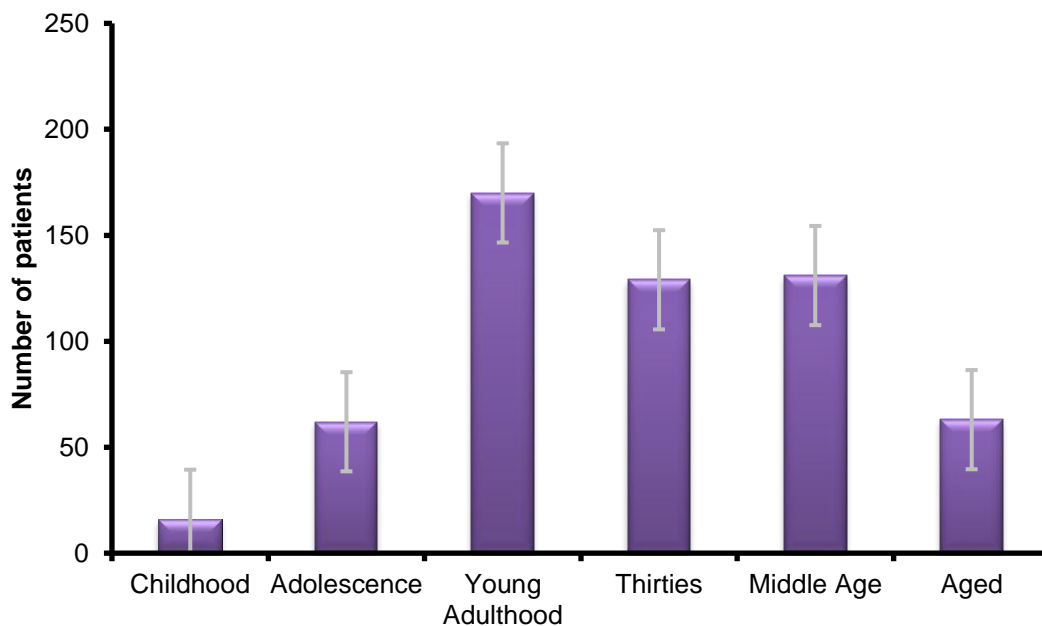
The collected data was analyzed using Graph Pad Prism 6.0 software.

**RESULTS AND DISCUSSION:**

The overall prevalence of dental caries of the patients coming to Allied Hospital Faisalabad during December 2017 and January 2018 was found to be 13%. A slight difference (10%) was found among both genders, i.e., females showed 55% and males showed 45% dental caries prevalence (Figure 1). The possible reasons are the hormonal imbalances, reproductive factors and genetic variations in females [12]. Other reasons might include the social and behavioral practices such as gender-based nutritional preferences [13]. Out of 568 patients, patients in age group of young adulthood (18-29 years) showed higher prevalence among all other groups (Figure 2). This can be attributed to the inclination of this age group towards fast-food and irregular dietary habits [14]. The other reason is the mental stress caused by various factors including career related matters, education and relationships [15, 16]. Out of all the teeth examined, permanent lower right first molar was the most common carious tooth observed with permanent lower left molar being the second most common.



**Figure 1: Prevalence of dental caries among both genders**



**Figure 2: Prevalence of dental caries among different age groups**

**CONCLUSION:**

Dental pain due to carious tooth is the most common complaint of the patients with compromised oral hygiene. This is a cross-sectional study conducted to evaluate the prevalence and severity of dental caries among the people concerning their gender, age group and tooth number. The results indicated the higher prevalence rate of dental caries among the females then in the males of young adulthood age group (18-

29 years) due to poor oral hygiene conditions. In these patients the permanent lower right first molar tooth is being the most affected tooth from dental caries and permanent lower left molar being the second most common affected tooth. These findings indicate the prevalence of dental caries in society due to poor oral hygiene, bad food habits, no routine of brushing, emotional disturbances and most of all lack of awareness [17]. To counter these oral healthcare

problems, we are in the dire need to launch the oral health awareness programs and social media campaigns to encourage the people for routine oral checkups and oral health maintenance.

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