

# Oral Health Knowledge, Awareness and Practice Among Patients in Dental College / Hospital, Karachi

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## ABSTRACT

**Objective:** To assess the awareness, attitude and behavior of Pakistani population in relation to oral health status and accept dental treatment among Darul Sehat Hospital patients living in Karachi, Pakistan.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted at the Out Patient Department (OPD) in Dental Block at Darul Sehat Hospital, Karachi from July 2016 to December 2016

**Materials and Methods:** A total of 8125 subjects consulted in the Out Patient Department and 7686 (94.5%) fulfilled the inclusion criteria and participated in the study. To access the oral health knowledge, attitude and behaviour we analysed the reasons of attending OPD, work load in different department, patients accepting or refusing the treatment plan or going for the alternative treatment plan.

**Results:** Results have shown that most of the patients came at dental OPD in pain without swelling ( $N=3,620$ ) ( $x^2=225.6$ ,  $df=11$ ,  $p<0.001$ ) but they did not prefer the conservative approach (Root Canal treatment). Most of the patient preferred extractions ( $N=1,091$ ) ( $x^2=4334.71$ ,  $df=12$ ,  $p<0.001$ ) which indicates the lack of knowledge or may be cost effectiveness.

**Conclusion:** Summing up, the present record and study have showed that population of Pakistan have lack of awareness and lack of positive attitude towards dental treatment.

**Key Words:** Oral Health, Awareness, Behavior, Attitude

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## INTRODUCTION

Good oral hygiene, including healthy teeth and gums, is an important part of our general health<sup>1,2</sup>. Oral health is now recognized as equally important in relation to general health. The attitude of an individual towards oral health depends upon his own experience, lifestyle, beliefs, cultural values, financial status, time and influence of the surroundings<sup>2,4</sup>. The American Dental Association recommends that, to avoid oral diseases, individual should brush and floss at least once a day and visit a dentist regularly<sup>1,5</sup>. Therefore awareness and knowledge is very crucial in order to avoid many diseases and complications. Oral diseases continue to be prevalent health problem<sup>6</sup>. In particular, oral diseases create a significant and costly burden to the developed and developing countries<sup>2,6-9</sup>.

As for the behavior, it has been noticed that mostly patients arrive with poor to average oral hygiene. This difference can be exhibited as the attitudes of population towards dentistry are class related.

Middle income people are found to be more dentally conscious than the lower income people. Thus socioeconomic status plays an important role in taking decisions about receiving the type of dental treatment<sup>10</sup>. Lack of awareness and less education comes hand in hand with low socioeconomic status in this part of the world. The main reason cited for the patient's consultation with the dentist is dental pain. The frequent reason behind dental pain is either untreated dental caries or periodontal diseases<sup>2,3,6</sup>. In particular, dental caries and gum disease create a significant and costly burden<sup>3,6</sup>. Poor oral health is directly related to social economic status as it is highly prevalent in low-income populations<sup>11,12</sup>.

The population of Pakistan has been estimated to be around 145.5 millions followed by 18,000,000 of Karachi population occupying an area of 3 528 km<sup>2</sup>. Karachi is the largest city and largest port of Pakistan it is also the world's second most populated city<sup>13</sup>.

## MATERIALS AND METHODS

The study reviewed and approved by the Research & Ethical Committee of Liaquat College of Medicine & Dentistry and Darul Sehat Hospital. All Subjects were selected equally from the pool of treated and maintained patients in the outpatient Department of Liaquat College of Medicine & Dentistry and Darul Sehat Hospital.

A cross-sectional study was conducted among Darul Sehat Hospital outpatient from July 2016 to December

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2016, in which 7686 (94.5 %) patients participated out of which 4172 were females and 3512 were males. This exercise comprised of patients < 18 years old and above arriving in dental OPD as outpatients with the reasons causing them to visit along with the treatment strategies. Research forms were formulated for recording the above findings and were filled by research candidates. They comprised of personal bio data such as name, age, gender, residence, presenting complaint, history of presenting complaint, examination, reference and treatment done. Out of which emphasis was done on age, gender, presenting complaint, reference, and type of treatment. The following data helps figuring out patient's knowledge, awareness and attitude regarding the treatment they went for. The idea behind studying each patient's information was to gain the knowledge about their awareness, approach and attitude towards dental & oral diseases and treatment.

The data was analyzed and the results were compared. The analysis of data was conducted using IBM SPSS statistic 19 program. The analysis was to verify that knowledge and awareness about oral health is important in order to bring about a positive response in oral status.

## RESULTS

The total numbers of subjects arrived as outpatient in the dental OPD was 7686 (94.6%), out of which 3,514 (45.7%) were males and 4,172 (54.3%) were females. The results show the distribution of both male and female patient is not significant (Table 1).

**Table No.1: Distribution of Gender who attended the Dental OPD**

		Frequency	Percent
Valid	Male	3,514	45.7
	Female	4,172	54.3

**Table No.3: Trend among the patients receiving different treatments with the complaint of pain without swelling**

		Treatment							Total
		Medication	Extraction	RCT	Filling	Manual scaling	Ultrasonic Scaling	No Treatment	
Ref	Oral Surgery	35	1,091	0	0	0	0	433	1,559
	Operative Dentistry	57	0	324	246	0	0	782	1,409
	Periodontology	30	0	0	0	142	262	218	652
Total		122	1,091	324	246	142	262	1,433	3,620

( $\chi^2 = 4334.71$ ,  $df=12$ ,  $p<0.001$ )

The following table shows the proportion of patients opt for treatment or no treatment in their respective dental OPDs. Out of total number of patients came to the OPD's, 65.5% received treatment and 34.46% left without any treatment. Most number of patients was treated in the Periodontology department (80.2%) the least number of patients was treated in the orthodontics

	Total	7,686	100.0
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(Mean = 1.54, Sd = 0.49, SE = 0.006)

**Table No.2: Distribution of patient receiving or refusing dental treatment in different department**

		Treat-ment	No Treatment	Total
Ref	Oral Surgery	1,784	616	2,400
	Operative Dentistry	1,204	1,315	2,519
	Periodontology	1,892	455	2,347
	Orthodontics	8	121	129
	Prosthodontics	149	142	291
Total		5,037	2,649	7,686

( $\chi^2 = 12,851.77$ ,  $df= 48$ ,  $p<0.001$ )

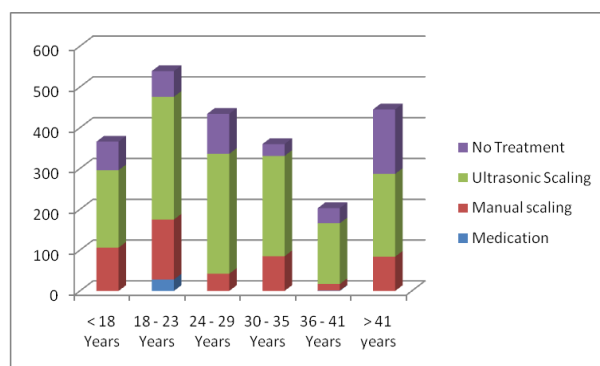
The research shows the different age group patients arrived in dental OPD, mostly were 41 years and above ( $n= 1974$ , 54.7 %) and the least number of patients were of age group between 36-41 years old ( $n=799$ , 10.4 %). It shows, distribution of subjects regarding their reason for dental visit, the most common reason noted for the dental visit were pain without swelling which comprises of about 47.14% with the higher proportion of females. Least common reason for visits was removable prosthesis which was 1.09%. Furthermore, shows the burden of patients on different dental departments.

The statistic shows that most patients were referred to Operative dentistry which was about 32.79 % where as the least number of patients were referred to orthodontic department being 1.68 %. There was 31.2 % of the total burden of patients belonged to oral surgery, 30.5 % on Periodontology while only 3.78% on Prosthodontics.

department (6.2%), 47.29% in the operative dentistry, and 74.33% in the oral surgery department (Table 2).

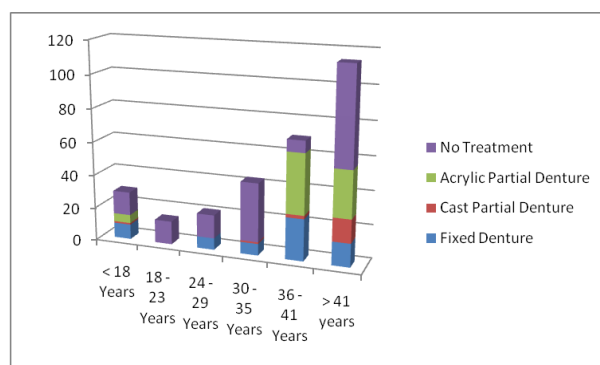
The table below shows the trend among the patients who received different treatments with the complaint of pain without swelling, from which 39.58% left without any treatment, 69.98% of patients came to oral surgery and had extraction done, 22.99% came to operative for

RCT while 17.46 % received restorative treatment (Table 3).



( $\chi^2 = 294.99$ ,  $df=15$ ,  $p<0.001$ )

**Figure No.1:** The table shows the age distribution of attending patient in Periodontology department and their behavior towards the treatment plan



( $\chi^2 = 110.72$ ,  $df= 15$ ,  $p<0.001$ )

**Figure No.2:** The bar chart demonstrate the age distribution of attending patient in Prosthetic Dentistry department and their preference towards the treatment plan

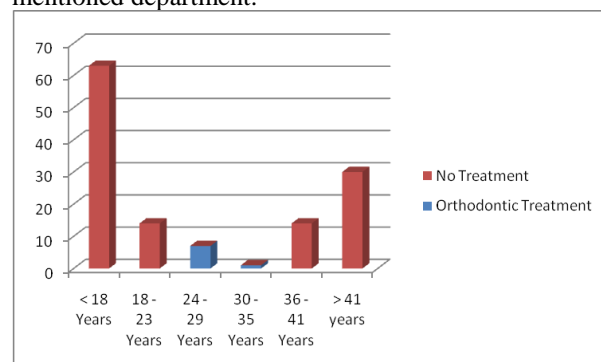
Analyses was made in patient attending different departments, Departments work load and attitude of the patients those received the appropriate treatment or refuse the treatment plan.

In operative dentistry department conservative treatment was suggested such as different type of fillings, and root canal treatment, direct and indirect pulp capping. According to our data 2519 (32.7%) patients attended operative department from July 2016 to December 2016, out of 2519 only 1196 (47.5 %) accept the treatment plan and others more than 50 % refuse the treatment offer and left the department without receiving any treatment.

The patients can receive all type of surgical procedure in local anesthesia such as removal of cyst and different type of extractions such as simple or surgical extractions in oral surgery department. According to their age group < 18 years of age patient did not want to extract their teeth (46.3 %) as compare to > 41 year of age patients (66.8 %).

Periodontology department offers all type of scaling and root planning under local anesthesia (if required). According to the data younger patients comprehend better the dental treatment plan suggested by the dentist as compare to older patients (Figure 1).

Prosthodontics department offers all type of fixed and removable partial dentures (acrylic & cast) and complete dentures for replacement of natural teeth. Figure 2 shows almost 50 % of patient replaced missing teeth and others refused it. The work load of this department is also very low as compare to above mentioned department.



( $\chi^2 = 129.00$ ,  $df=5$ ,  $p<0.001$ )

**Figure No.3:** The distribution of different age group patients opt for treatment or no treatment in Orthodontic department.

Due to lack of knowledge and affordability on the patients's part, the workload in orthodontic department is much less compared to other departments. Patients did not prefer esthetic treatment due to many reasons one of which was financial issue.

According to our data patients of orthodontic department mostly refused the treatment plan (93.79%) and left without any treatment done (Figure 3).

## DISCUSSION

Liaquat College of Medicine & Dentistry and Darul Sehat hospital is situated in south Karachi at a central location which covers rural and urban population of gulshan town, the hospital has a well established dental program for more than 10 years with well equipped dental OPD's<sup>14</sup>. This research was conducted to assess and analyze the knowledge and behavior of population with regards to oral health and dental treatment. The most common reason cited for their dental visit was dental pain<sup>5,15,16</sup>. Pain is defined by the International Association for the Study of Pain (IASP) as "a disagreeable sensory and emotional experience of subjective nature"<sup>16</sup>. The etiology of dental pain is more likely to be dental caries<sup>17,18</sup> and periodontal disease<sup>19</sup>. Untreated dental caries is one of the most hazardous situations leading to excruciating dental pain, which is directly related to low socioeconomic status<sup>10,12</sup>. The collected data made it very obvious that awareness and

knowledge about dental and oral health is very limited and given least priority in low economic status areas<sup>11,12</sup>. People tend to visit dentist only when the pain is unbearable and home remedies tend to fail<sup>16</sup>. Routine dental treatment has been the missing element, most obvious reason behind is lack of oral health promotion & affordability<sup>20</sup>. The oral health knowledge of the general population was poor. Usually people with limited income and less education are the ones with the poorest oral health knowledge<sup>11,21</sup>. Electronic & print media will be the appropriate way to disseminate oral health awareness to the Pakistani population via mass media.

Dental caries, periodontal disease and other oral disease, burden people in Pakistan excessively. These are aggravated by poverty, poor living conditions, ignorance concerning health education and lack of government funding<sup>22</sup>.

This is a time to realize that oral health is very important in general health. For maintaining healthy lives oral health should be an important thing to be focused by government and local authorities. Pakistan is one of the developing countries, where are social, political, economic, behavioural and environmental barriers to health. Therefore it is a big challenge for oral health professionals to minimize the burden of oral diseases (particularly dental caries and periodontal diseases) in Pakistan.

Dental professionals and government of Pakistan should work in collaboration to improve the status of knowledge & awareness towards oral health and dental treatment to save the nation's smile.

## CONCLUSION

Summing up, the present record and study have showed that population of Pakistan have lack of awareness and lack of positive attitude towards dental treatment.

The study reveals an important fact that dental pain without swelling is the most common reason for visiting a dental clinic. Due to lack of knowledge, awareness, education and low socioeconomic status, most of the population preferred extractions rather than saving the tooth.

### Author's Contribution:

Concept & Design of Study:	Muhammad Nadeem
Drafting:	Irum Munir Raja
Data Analysis:	Muhammad Nadeem & Irum Munir Raja
Revisiting Critically:	Naheed Najmi
Final Approval of version:	Muhammad Nadeem & Naheed Najmi

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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