CORRELATION OF PREOPERATIVE ANXIETY WITH PHYSICAL STATUS OF PATIENTS

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ABSTRACT

The aim of this study was to assess the effect of patient's physical status with preoperative dental anxiety. This cross-sectional study was performed at the Oral Surgery Out Patients Department of Isra Dental College, Hyderabad, Pakistan from 16th November 2017 to 15th January 2018. After taking patient's consent, the patient's age and gender were noted and a detailed medical history was taken. The physical status of the patient was graded according to American Society of Anaesthesiologists grading from the acquired medical history. The patients were then requested to fill a prestructured proforma based on the Corah Dental Anxiety Scale (DAS) prior to their dental procedure done to evaluate their anxiety levels. The data so collected was analysed using SPSS version 21. Results showed females and younger age groups were more anxious as compared to males and elderly. Pearson correlation test denoted a statistically significant and negative correlation, between Physical status of the patient and dental anxiety. It was concluded that females and young patients were more anxious and patients with comorbidities were less anxious prior to a dental procedure as compared to the physically healthy ones.

Key Words: *Dental anxiety, Corah's Dental Anxiety Scale (DSA), Physical status, ASA grading*

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INTRODUCTION

Anxiety among dental patients is not uncommon.[1] And this is perhaps even greater if patient has to go for a surgical procedure even for a simple extraction. It is commonly attributed to the use of local anaesthesia and use of instruments for bone cutting including drills and other tools. Sometimes this anticipated fear and anxiety reaches to the level where patient refuses to get treatment and defer extraction.[2] Varieties of factors have been drawn in as aetiology of dental anxiety and include congenital determinants, trauma, and experiences shared by peers and family.[3] Corah's dental anxiety scale is a common tool, used for assessment of anxiety among dental patients.[4]

Oral surgery clinics receive patients with diverse co-morbidities and medical challenges. This aspect have been extensively studied globally and locally as well and revealed variable of patterns of co- morbidities in different parts of world and even locally.[5]

Although various systems and grading methods are suggested for medical risk assessment but ASA grading system is the most frequently used one among all existing systems.[6] ASA classification system has not been frequently used to assess medical risk assessment among dental patients. It is assumed that serious co-morbidities are linked with higher level of anxiety among patients attending dental and oral surgery clinics, but have not been studied substantially. Therefore this study was carried out to assess medical risks according to ASA system and anxiety among patients attending oral surgery OPD, using modified version of Corah's dental anxiety scale and to co-relate the anxiety with ASA status of patients, if it exists.

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METHODOLOGY

A cross-sectional descriptive study was conducted after getting ethical approval from the institutional research and ethical department. Data were collected from 354 randomly selected patients who had reported to the Oral Surgery OPD of Isra dental college, Isra University Hyderabad from 16th Nov 2017 to 15th Jan 2018.

After taking patients consent, the patient's age and gender were noted and a detailed systemic history was taken regarding systemic diseases such as diabetes, hypertension (HTN), asthma, epilepsy, heart disease, bleeding disorder, hepatitis B or C, anaemia, tuberculosis (Tb) and other remarkable diseases. The physical status of the patient was noted and graded according to ASA grading. Patients were also given a prestructured proforma before their surgical and non- surgical dental procedures were done. The anxiety levels were evaluated based on the scores of the Corah's Dental Anxiety Scale (DAS) and were correlated with age, gender and physical status of the patient.

Corah's Dental Anxiety Scale (DAS) given by Corah in 1969 for assessment of dental anxiety was used in the modified form to fit the requirements of this study.[4] This scale comprised of five multiple choice items dealing with the patients subjective reactions about going to the dentist, waiting in dentist's office for the procedure and anticipation of drilling, scaling and extraction.

Score 1 to 5 (with "a" as 1 and "e" as 5) was given to answers to individual questions. The minimum possible score was 5 and maximum score possible was 25.

Scores

Score 5 was considered as not anxious

Score 6 to 10 was considered as mildly anxious

Score 11 to 15 was considered as moderately anxious

Score 16 to 20 as highly anxious and

Score 21 to 25 as severely anxious/Phobia (above normal levels)

The data so collected on a specially designed proforma was analysed using SPSS version 21. Frequencies were found for all variables and bivariate correlation analysis was performed using Pearson test to find the effect of physical status of the patient on the preoperative anxiety level. The significance value was set < 0.05.

RESULTS

Data were collected from 354 randomly selected patients, of which 171 were males (48.3 %) and 183 were females (51.7 %). Patients ranged from 5- 88 years with the mean age of 34.43 ± 16.05. Patients were divided in 7 age groups and age distribution of these patients was such that majority of patients were in age group 31-40 years followed by 41-50 years. Details of age distribution along with their anxiety level is presented in Table 1. When compared with gender females were more highly anxious (36.6%) as compared to males (15.8%). Details are given in Table 2. Further details can be seen in table 3-5.

DISCUSSION

History taking and examination are essential parts of dental treatment. A dentist should be aware of any existing medical comorbidity as some medical conditions suggests special precautions while others might be an indication for deferral of non-emergency procedures.[7,8] Dental setting is usually nerve-racking for most of the patients either because of the sight of instruments (surgical needles, extraction forceps, pliers, hand piece, wax knives, carvers etc.) or painful past

TABLE 1: AGE DISTRIBUTION WITH THEIR ANXIETY LEVEL

Age group	Preoperative Anxiety level					Total
	not anxious	slightly anxious	moderately anxious	highly anxious	severely anxious	
Below 10 years	0	3	7	12	0	22
11-20	1	15	3	20	0	39
21-30	0	45	7	20	0	72
31-40	1	43	11	24	1	80
41-50	0	54	10	13	0	77
51-60	0	28	7	4	0	39
61 years and above	0	22	2	1	0	25
Total (n)	2	210	47	94	1	354

TABLE 2: GENDER DISTRIBUTION WITH THEIR ANXIETY LEVEL

Gender	Preoperative Anxiety level					Total
	not anxious	slightly anxious	moderately anxious	highly anxious	severely anxious	N (%)
Male	1 (0.6%)	127 (74.3%)	16 (9.4 %)	27 (15.8 %)	0 (0.0 %)	171 (48.3%)
Female	1 (0.5%)	83 (45.4%)	31 (16.9%)	67 (36.6 %)	1 (0.5 %)	183 (51.7%)

TABLE 3: DISTRIBUTION OF PATIENTS ACCORDING TO MEDICAL COMORBIDITIES AND ASA GRADING

Physical status of patient		(n)	%
Healthy	No disease	269	76.0%
Isolated diseases	Hypertension (controlled)	2	0.6%
	Hypertension (uncontrolled)	35	9.9%
	hep C	10	2.8%
	Diabetes	9	2.5%
	Asthma	6	1.7%
	heart disease	2	0.6%
	bleeding disorder	1	0.3%
	Anemia	2	0.6%
	Hep B	2	0.6%
	Tuberculosis	1	0.3%
Combination Diseases	Diabetes + Hypertension	11	3.1%
	Diabetes + Hypertension + Heart disease + Hep C	1	0.3%
	Diabetes + Hypertension + Hep C	1	0.3%
	Hypertension + Heart disease	1	0.3%
	Diabetes + Hypertension + Asthma	1	0.3%
	Total	354	100.0
Physical status of the patient according to ASA grading		Frequency	Percent
ASA grade 1		271	76.6 %
ASA grade 2		55	15.5 %
ASA grade 3		27	7.6 %
ASA grade 4		1	0.3 %
ASA grade 5		0	0.0 %
ASA grade 6		0	0.0 %
Total		354	100%

TABLE 4: PATIENTS RESPONSE TO CORAH'S SCALE QUESTIONNAIRE AND THEIR PREOPERATIVE ANXIETY STATUS

Questions	Enjoyable Experience	Doesn't Matter	Uneasy	Afraid	Very Frightened
Anxiety status while going to the dentist.	0.6%	59.6 %	16.1 %	23.2 %	0.6 %
	Relaxed	Uneasy	Tensed	Anxious	Very Anxious
Anxiety status while waiting in dentist's office for the procedure	57.9 %	5.6 %	10.7 %	25.7 %	0.0 %
Anxiety status when the dentists prepares for drilling and filling	58.5 %	5.4 %	9.3 %	26.8 %	0.0 %
Anxiety before scaling	59.0 %	5.9 %	8.5 %	26.3 %	0.3 %
Anxiety before extraction	56.5 %	4.5 %	9.6 %	29.1 %	0.3 %
(n)	Not anxious	Mildly anxious	Moderately anxious	Highly anxious	Severely anxious
354	0.6% (2)	59.3% (210)	13.3 % (47)	26.6 % (94)	0.3% (1)

TABLE 5: CORRELATION BETWEEN PHYSICAL STATUS OF PATIENT AND PREOPERATIVE DENTAL ANXIETY USING PEARSON CORRELATION TEST

ASA	Score
Pearson Correlation	-.142**
Sig. (2-tailed)	.007
N	354

experiences of themselves or their friends or relatives. Dental anxiety is also an important factor that a dentist should bear in mind prior to dental treatment as to analyse the patient's anxiety and proper counselling of the patient is very crucial for a smooth procedure and a good experience for the patient. This will eliminate the patient's fear and motivate them to visit the dentist regularly and receive any required dental treatment without deferring due to anxiety. It is recommended to treat hypertensive patients early morning and stress reduction protocols should be followed in such patients.[7]

The results of this study showed that 24% of the total examined patients had medical comorbidity which accord with Inderdeep Singh Walia et al[9] who found that 26.5% of the patients visiting dental OPD for treatment were medically compromised based on a survey in a hospital located in north India and Smeets et al[10] who discovered that 28.2% of the patients visiting dentist in Netherland were suffering from medical comorbidities. Whereas, few studies reported a lesser incidence of medically compromised dental patients such as 1.02% and 12.2% by Bhateja S[11] and Dhanuthai K et al[12] respectively. However, some studies have reported a greater incidence of medical comorbidities 55.45% and 64.2% reported by Saengsirinavin et al[13] and Umino et al[14] respectively.

This study showed that hypertension was the most common comorbidity followed by Hepatitis C and diabetes mellitus, the percentages of which were 10.5%, 2.8% and 2.5% of all the dental patients respectively. Similarly, few other studies also found hypertension to be the most common comorbidity in dental patients.[9,15,16] Likewise, some other studies suggested that cardiovascular diseases including chest pain, myocardial infarction and hypertension were the most prevalent comorbidities.[10,17-19] Owing to the high prevalence of hypertensive patients, the dentist must take a full history of all the patients and such patients should be planned for early morning visits and stress reduction protocols should be followed to avoid complications associated with hypertensive patients.

Hepatitis C was the second most prevalent disease in

present study, while Kanwal S et al[20] found it the most prevalent comorbidity along with diabetes mellitus. The difference in the results of currsent study could be due to several undiagnosed cases or patients tend to hide such history because of lack of awareness and from the fear of not being treated equally as any other patient. Hence it's very crucial to follow all prevention protocols for every patient.

Third most common comorbidity reported in this study was Diabetes Mellitis. Conversely, diabetes was found to be the 2nd most common and 3rd most common comorbidity by Bhateja[11] and Kanwal S et al[20] respectively.

Using Corah's scale, prsent study revealed that majority of the patients were mildly anxious before dental treatment whereas Bolla V L [21] found that most of the patients were moderately anxious preoperatively.

Currsent study also revealed that younger age groups were more anxious as compared to elder patients and this was in accordance with Yusa's[22] and Khan's study.[23] The results of their study also indicated that younger patients were highly anxious than elderly patients and this could be due to decreased previous visits and exposure or awareness to the hospital environment.

Present study also found that females were more anxious as compared to males and similar results were found in several other studies.[4,24] In 2015, Shitole revealed in his study that females were more anxious than males in India.[25] Farooq also revealed similar results while analysing the preoperative dental anxiety using Corah's Dental anxiety scale in dental students.[26] The reason attributed was that males are more inclined towards hiding their emotions and fears as a part of cultural and social pressures.[26] Other studies performed in Pakistan showed similar results by stating that females were more anxious as compared to men.[23,27] On the contrary, severe level of dental anxiety was commonly found in women and this was consistent with currsent study, while in another study there was insignificant difference in dental anxiety in genders.[28]

When physical status of the patient was correlated with preoperative dental anxiety, this study showed a negative correlation, this could be because patients with ASA grade 2 or more might be familiar with the hospital environment, had well past experience, multiple visits or greater awareness as compared to other patients; thus eliminating this cause of anxiety. Moreover, individuals suffering from comorbid diseases like cardiovascular disease and diabetes are middle aged or elderly. Hence, eliminating another cause of anxiety as pointed out by certain studies that younger patients, patients with poor socioeconomic status and those who have less awareness or knowledge are severely anxious preoperatively and vice versa.[22,29] Studies have also shown that repeated dental visits and education regarding dental procedures help reduce preoperative anxiety. It seems that a patient with poor physical status might be more anxious but the results of prsent study contradicts this, so further studies need to be conducted in this area to find out the correlation and its possible reasons.

CONCLUSION

The results of this study concluded that:

1. Young patients were more anxious as compared to the elderly
2. Females were more anxious as compared to males
3. Patients with existing comorbidities were less anxious as compared to the physically healthy patients.

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