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Association of Trait Anxiety with Dental Anxiety in a General Population in Pune, India.

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ABSTRACT:.

Introduction: Anxiety disorders involve assessment of both dental and trait anxiety[1]. Dental anxiety is the feeling of tension related to dental treatment and not necessarily tied to external stimuli. Trait anxiety reflects a consistent predisposition for individual to experience a height and level of anxiety in various situations.

Methodology: This cross-sectional study was performed with a sample of 295 male and female patients in Pune. Aims of the study were explained upon distribution. All participants took part in the study voluntarily and no incentives were given to the respondents.

Result : This study aims to assess the association of dental anxiety to trait anxiety among general population. Most participants were within the age brackets of 27+-5 years. In terms of gender distribution, 182 females and 113 males took part in the study.

Conclusion: Our result reveal a noteworthy connection between dental anxiety and trait anxiety.

KEYWORDS: Dental Anxiety, Trait Anxiety, fear.

I. INTRODUCTION

Anxiety disorders involve assessment of both dental and trait anxiety[1].

Dental anxiety is the feeling of tension related to dental treatment and not necessarily tied to external stimuli. Trait anxiety reflects a consistent predisposition for individual to experience a height and level of anxiety in various situations.[2].

Trait anxiety is a general predisposition for heightened anxiety across situations, while dental anxiety specifically pertains to anxiety related to dental experiences[2].

Many individuals globally report dental anxiety as a significant healthcare issue. Anxiety is acknowledged as a significant concern within healthcare indicating it's impact on individual seeking dental treatment[2].

Numerous studies suggest a connection between anxiety related to dental experience and broaden fears and overall trait anxiety levels[3].

Dental anxiety is multifactorial in it's origin where various factors work together to influence it's manifestation[4].

Many individual commonly experienced anxiety associated with dental treatment which often contributes to the avoidance of the dental care. This avoidance can have detrimental effects on oral health, as regular dental careis essential for maintaining overall well-being. Dental treatment avoidance, inconsistent dental visits and limited cooperation all stem from dental anxiety[5].

Patients with increase trait anxiety tend to anticipate elevated pain when they face a challenging situation related to their fears. This implies that individual withelevated anxiety levels are prone to heightened anxiety and increase pain during dental treatment compared to those with lower anxiety levels. Thus impacting their overall approach to dental care[6].

Individuals experiencing psychopathologic disturbance exhibit an increase level of dental anxiety that Surpasses what is considered proportionate or typical in such situations. This suggest a noteworthy connection between mental health challenges and an elevated apprehension towards experiences[7].

The aim of this survey is to explore how the personality traits and dental traits affects the general population in Pune.

II.MATERIAL & METHODS

This cross-sectional study was performed with a sample of 298 male and female patients in Pune. The sample size is determined using the following formula n = z 1-α/2 2 p(1-p) d2 where, p = previous expected values=0.25, d =desired

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Margin of error = 0.5, Z1-α/22 confidence interval of 95%, z = 1.96. The calculated Sample size was 289 rounded off to 300. A questionnaire with 21 questions was formed and was distributed among general population of Pune. The Cronbach's Alpha was 0.835 which was found to be good. Statistical analysis will be performed using Statistical Product and Service Solution (SPSS) version 21 for Windows (SPSSInc, Chicago, IL). Descriptive quantitative data will be expressed in mean and standard deviation respectively. Descriptive qualitative data will be expressed in percentage/proportion.The questionnaire was designed on Google forms (Google LLC, Mountain View, California, United States) and the link was distributed among the participants through email, whatsapp number and other social media platforms (Instagram, Telegram, etc.) All participants took part in the study voluntarily and no incentives were given to the respondents.

III.RESULT

In this cross-sectional study, a total of 295 participants took part from across Pune by submitting a questionnaire.

Most participants were within the age brackets of 27+-5 years. In terms of gender distribution, 182 females and 113 males took part in the study. As presented in **(Table 1)**

The symptoms experienced by the people before visiting the dentist are fear and nervousness(81.36%) as the leading symptom followed by feeling anxiety on the dental chair(11.19%) while few opted for delayed dental visit(5.08%), elevated heart rate(1.02%), sweating as their symptoms(1.36).

According to them, the fear of dentists commenced from the information they got from others(43.73%), thereafter few previous bad experiences(24.21%). Also unempathetic dentists(15.25%) being a reason for their fear.

Table 1: Demographic distribution of participants

Demographics	Total	N
Gender	Male	113
	Female	182
Mean Age (in years)	27.97 ± 5.21	
Total		295

When asked if they are familiar with the term trait anxiety, majority of people were familiar with it(42.71%), while some were not entirely clear(32.54%) regarding it. Few were completely not familiar with the term(24.75%).

A large number of people perceived trait anxiety significantly contributing to dental anxiety(47.46%). Several people viewed trait anxiety to somewhat overlap dental anxiety(32.20%). While a handful of people considered dental anxiety and trait anxiety to be separate from each other(11.19%). Few were unsure about it(9.15%).

The participants were also asked to compare the anxiety they felt before dental visits to the general feelings of anxiety in different situations to which majority believed that the feelings were somewhat similar(42.03%). A great number of people answered positively(35.59%), whereas a few participants were negative(13.22%) in regard to the question. A couple of people were not sure about it(9.15%).

These participants were made to think about the last time they felt anxious in a non-dental situation and to compare it to a dental situation. (39.32%) people considered dental anxiety to be higher than trait anxiety, whereas, (38.31%) considered the opposite of this. (11.86%) participants viewed them to be similar in both situations. A few of them were unknown to this (10.51%).

The environment (music, lighting, décor) made the majority of people comfortable(62.71%), while it had no effect on (11.53%) of them. A couple of participants felt uncomfortable due to this(7.12%).

Many participants thought about seeking professional help to manage their anxiety but

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couldn't take the step(30.51%). Similar amount of the participants were negative regarding professional help or therapy(30.51%). While numerous people wanted to seek professional help(23.39%) ,few were unsure if professional help would be beneficial(15.59%). **(Table 2).**

Table 2: Response analysis of study participants:

Item		Frequency	Percentage
Do you experience any of the following symptoms before visiting a dentist?	Fear or nervousness	240	81.36
	Delayed dental visit	15	5.08
	Anxiety in dental chair	33	11.19
	Elevated heart rate	3	1.02
	Sweating	4	1.36
How did the fear start?	Previous bad experience	72	24.41
	Information from others	129	43.73
	Unempathetic dentist	45	15.25
	Others	49	16.61
Do you know what is trait anxiety?	Yes	126	42.71
	Not entirely clear	96	32.54
	No	73	24.75
How do you perceive your trait anxiety influencing your dental anxiety?	Trait anxiety significantly contributes to dental anxiety	140	47.46
	Trait anxiety somewhat overlaps dental anxiety	95	32.20
	Trait anxiety and dental anxiety seems to be separate	33	11.19
	Not sure	27	9.15
Would you say your anxiety about dental visits is same as your general feelings of anxiety in everyday situations?	Yes	105	35.59
	No	39	13.22
	Somewhat similar	124	42.03
	Not sure	27	9.15
Think about the last time you felt anxious in a non-dental situation.How does that level of anxiety compare to your feelings about going to the dentist?	Dental anxiety significantly higher than trait anxiety	116	39.32
	Trait anxiety significantly higher than dental anxiety	113	38.31
	Similar in both situation	35	11.86
	Don't know	31	10.51
How does the environment (music,lighting,decor) affect your level of comfort?	Slightly uncomfortable	55	18.64
	Uncomfortable	21	7.12
	Comfortable	185	62.71
	No effect	34	11.53
Have you ever thought of any professional help or therapy, medications, to manage your anxiety?	Yes	69	23.39
	Thought about seeking professional help but couldn't take the step	90	30.51
	Not sure if professional help would be beneficial	46	15.59
	No	90	30.51

When gender distribution pattern was assessed statistically p value was significant for all other questions which were asked except for how they described their dental treatment.

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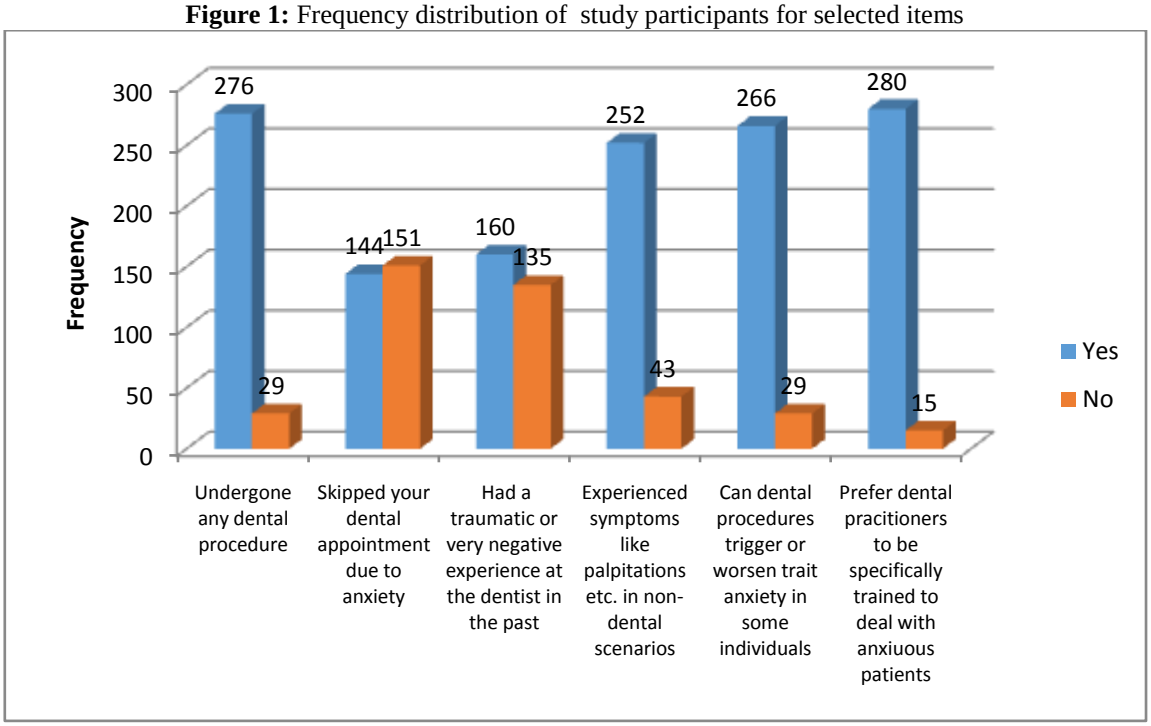
Figure 1: Frequency distribution of study participants for selected items



IV.DISCUSSION

This study is an effort to include the knowledge gained from the dental students across private institutionThis study aims to assess the association of dental anxiety to trait anxiety among general population. Numerous studies which were conducted throughout the world such as in Sweden[8], Canada[9], Amsterdam[10] ,etc, have explored the association between trait anxiety and dental anxiety and have found conflicting results.It examines the interplay between dental anxiety and trait anxiety, exploring how they mutually influence each other in day to day life.The Impact of gender on anxiety remains inconclusive, while Hakeberg et al indicated that women tend to report a higher level of dental anxiety than men[10].

In the present study , female gender reported higher levels of dental anxiety than men. This is in accordance with study conducted by Yoshiaki Ihara et al. , Where 76% of participants being women , male gender was significantly associated with severe dental fear[11].In our study, majority of the fear originated from the information from others 57%. This aligns with the study by Heaton et al ., In which previous bad dental experience played a significant role in high levels of dental anxiety[12].The present study reveals that aspects such as anaesthetic injection 58.7% ranked highest, followed by drills 51.3% followed by fear of pain 49% triggers the anxiety during dental treatment. This is in accordance with Razavian H et al ., where 37% of participants identified drilling as the most anxiety inducing stimulus, followed by injections[13].

Our study highlighted the fact that dental anxiety is significantly higher than trait anxiety 40.3%. Similarly, findings were reported by Fuentes et al., who observed that patients with elevated dental anxiety often exhibit high trait anxiety. However the reverse relationship does not necessarily hold true. This suggests a positive correlation between dental and trait anxiety in dental patients, with a noteworthy observation that a high trait anxiety level may not predict a corresponding high level of dental anxiety[14].

To alleviate the intensity of fear and panic attacks in dental phobia, collaborative effort between the dentist and patient is essential. The dentist should possess not only exceptional clinical skills, but also demonstrate excellence in psychological understanding. According to our research, techniques such as music 52.7% followed by deep breathing 37.3% has helped in distraction or relaxation during dental visits[15].

This is in accordance with the study conducted by White JM et al., In which suitable music has proven to impact brain waves, promoting profound relaxation and alleviating pain and anxiety. The technique of music distraction is a non invasive procedure. The resulting effect is understood as a harmonious blend of relaxation and distraction[16].This highlights the importance of anxiety management and necessity to carefully manage patients with dental and trait anxiety.

V.CONCLUSION

Our result revealed a noteworthy connection between dental anxiety and trait anxiety . These findings emphasize the importance for dentists to recognise that individuals experiencing moderate to severe dental anxiety may also exhibit generalized trait anxiety, implying that heightened dental anxiety often aligns with increased overall anxious tendencies in day to day life .

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