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A survey on dental students anxiety levels on performing extraction procedure

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Abstract---Introduction: Stress and anxiety go hand in hand and are common in the lives of every student these days. Dentistry being a professional course is very demanding and aims at bringing out the best in a student in clinical practice. Extraction is a very common but much feared procedure by both patients as well as dentists, especially those who are new to clinics. In our study we aim to find the anxiety levels in dental students towards the procedure of extraction. Materials and Methods: A self prepared questionnaire was circulated to 100 dental students and the responses were collected and statistically analysed. The statistical software used was SPSS version 23. The results were graphed for easy visualisation. Results and Discussion: It was found that females had higher anxiety levels towards extraction than males. Also BDS students had the highest anxiety levels followed by MDS students. PhD students were not found to have much anxiety towards extraction. Conclusion: In this study, anxiety levels towards extraction were found to be high among dental students. As the students gain experience, anxiety levels also decrease. Newcomers to the clinic face the highest anxiety levels.

Keywords---dental students, anxiety, stress, extraction, clinics, innovative technique.

Introduction

Dentistry is a professional course and dentists encounter numerous sources of professional stress, beginning right from dental school. This stress can have a negative impact on their personal and professional lives. Dentists are prone to professional burnout, anxiety disorders and clinical depression, owing to the nature of clinical practice and the personality traits common among those who decide to pursue careers in dentistry. (1). As a result, dentists are subjected to many symptoms of stress that must be identified and managed in the early stages before serious physical and psychological consequences develop.(2) The dental clinical setting is a significant learning environment for dental students and it may induce anxiety, which may adversely affect the clinical performance. (3) Stress is defined as pressure or worry caused by problems in somebody's life. The practice of dentistry is associated with one of the high levels of occupational stress. It has been stated that stress encountered during dental education is more pronounced than during medical education (4) The training undergone by students is very demanding which is the leading cause of stress and anxiety in dental students. (5)

Stress can be described as a double-edged sword that can either inspire and trigger the students to their peak performance or reduce the students to ineffectiveness. (6) Dental extraction is a common procedure that is subject to complications and errors including extraction of the wrong tooth. Though errors are common they are preventable. (7)Wrong tooth extraction is not an uncommon event and this occurs due to system error and sometimes due to stress. (7,8)Dental extraction armamentarium includes maxillary and mandibular forceps, elevators, etc. Extraction is one of the simplest procedures in oral and maxillofacial surgery. It is a minor procedure which can be performed by undergraduate students as well.

Dry socket is a common complication of dental extraction, especially extraction of third molars. Knowledge of the frequent risk factors of alveolitis osteitis is useful in determining high-risk patients, treatment planning, and preparing the patients mentally.(9)Postoperative pain is also a complication of extraction which the patient mostly complains about. Hence the outcome of extraction is variable and uncertain. Anxiety is a feeling of worry, nervousness or unease about something with an uncertain outcome. Greek and Latin physicians and philosophers distinguished anxiety from other types of negative affect, and identified it as a medical disorder. (10)

Many studies have been done testing the anxiety levels of patients in a dental clinic but no study has been done to test the anxiety levels of a dentist before extraction. Our team has extensive knowledge and research experience that has translated into high quality publications(11–20),(21–24),(25–29) (30). This study aims at assessing the anxiety levels of dentists before an extraction procedure.

Materials and Methods

A well structured self prepared questionnaire comprising 15 questions which aimed at assessing the anxiety levels of participants was prepared. It contained even demographic questions. The study was conducted among dental students from different years. It was economical, easy to create, had a wide reach, gathering a lot of data. However it was not able to overcome response bias and survey fatigue.

The survey was circulated among 100 participants via google forms. The results obtained were collected to excel and analysed statistically. The statistical software used was SPSS version 23. The statistical method used was descriptive statistics. Association analysis was done using Chi Square with $p < 0.05$ is statistically significant.

Results

The responses given by the participants were statistically analysed and graphed as follows.

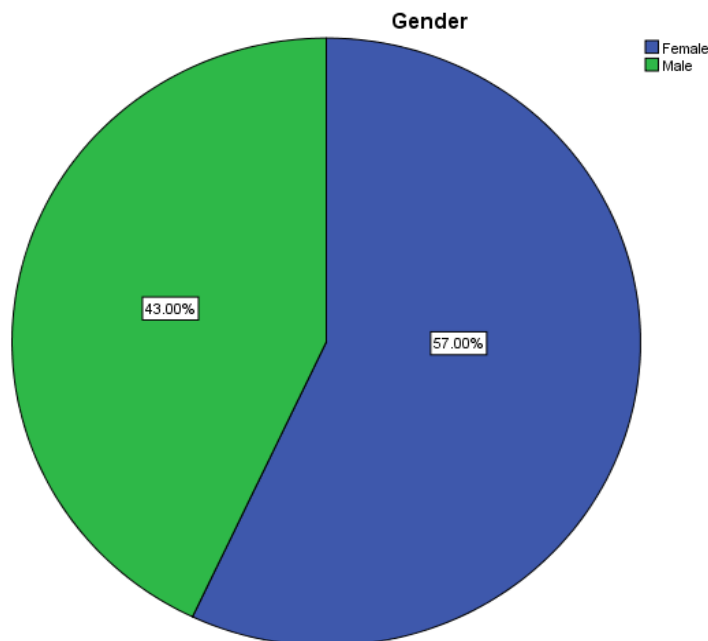


Fig 1: Pie chart showing the percentage of males and females who participated in the survey. 43% of the participants were males while the rest 57% were females.

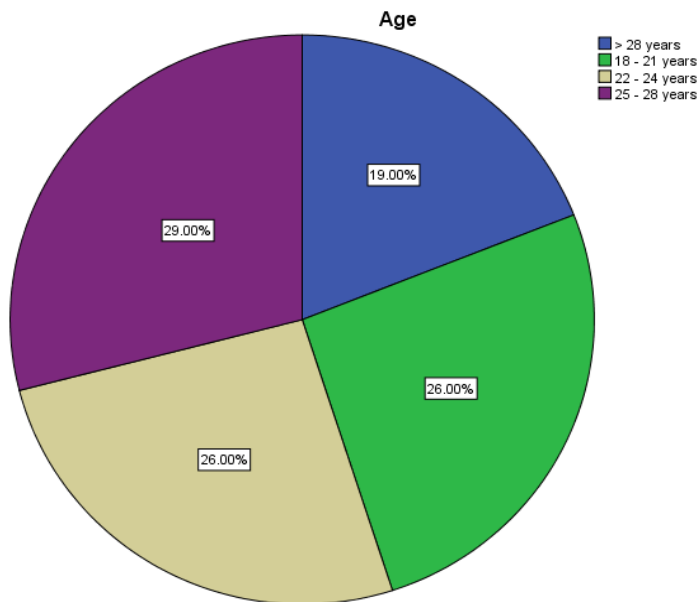


Fig 2: Pie chart showing the age distribution of participants in percentage. 26% of the participants belonged to the age group 18-21 years, another 26% of the participants belonged to the age group 22-24 years, 29% of participants belonged to the age group 25-28 years while 19% of participants belonged to the age group above 28 years.

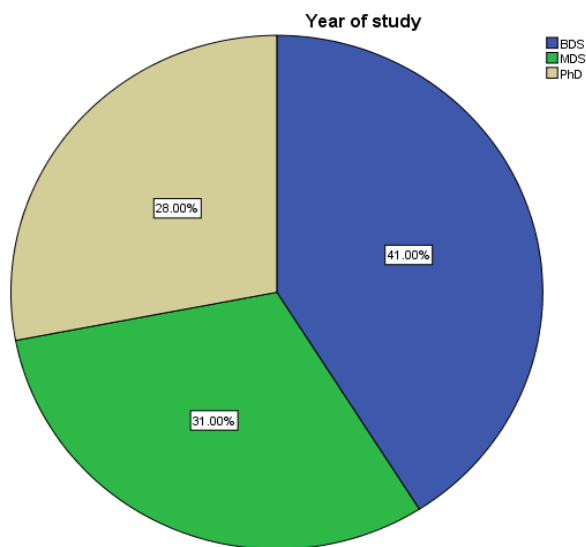


Fig 3: Pie chart showing the percentage of distribution of participants according to their years of study. 41% of participants were studying BDS, 31% of participants were studying MDS and 28% of participants were studying PhD.

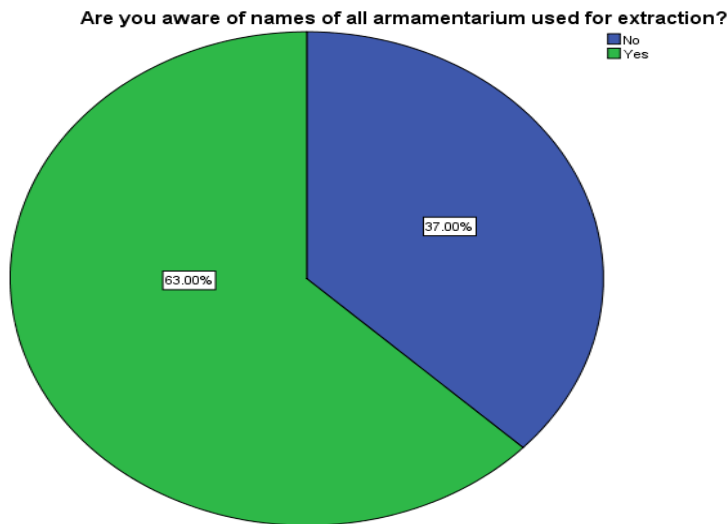


Fig 4: Pie chart showing the percentage of participants who were aware of all the names of the armamentarium used for extraction. 63% were aware of all the names of the armamentarium while 37% were not.

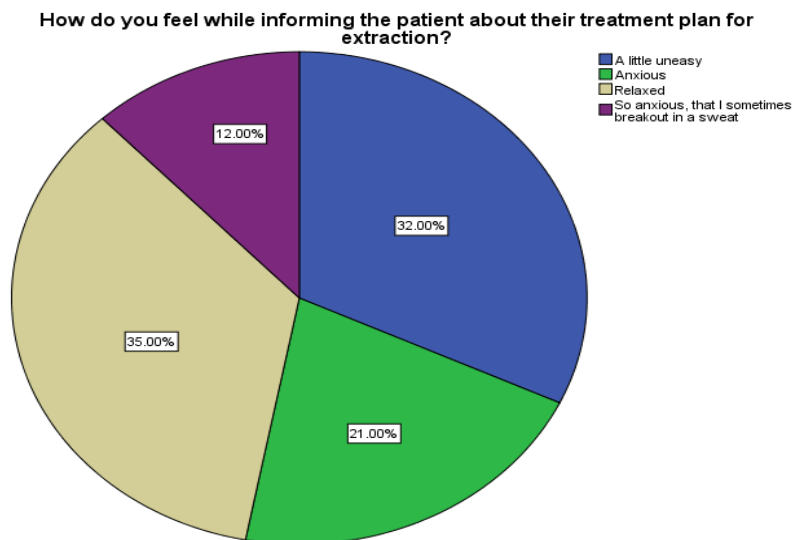


Fig 5: Pie chart showing percentage of responses of participants to the question how they felt while informing patients about treatment plan for extraction. 35% of the participants felt relaxed, 32% of the participants felt a little uneasy, 21% of the participants felt anxious while 12% of the participants felt so anxious that they break out in a sweat at times.

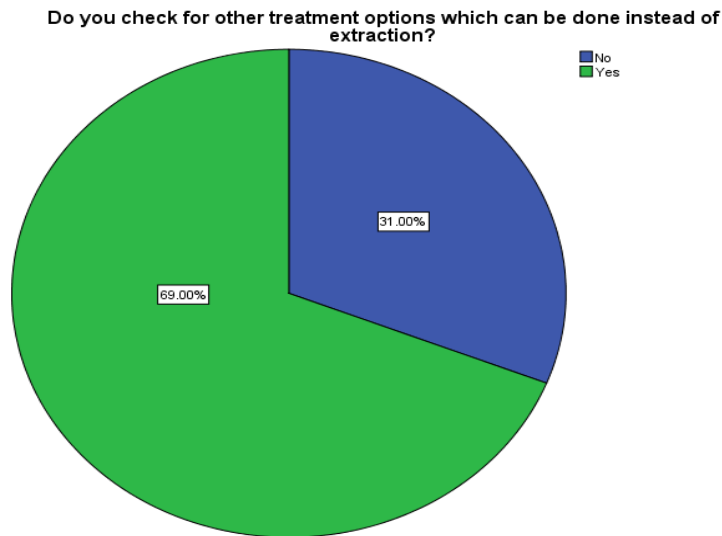


Fig 6: Pie chart showing the percentage of participants who check whether any other treatment can be done before proceeding ahead with extraction. 69% check for other treatment options while 31% don't.

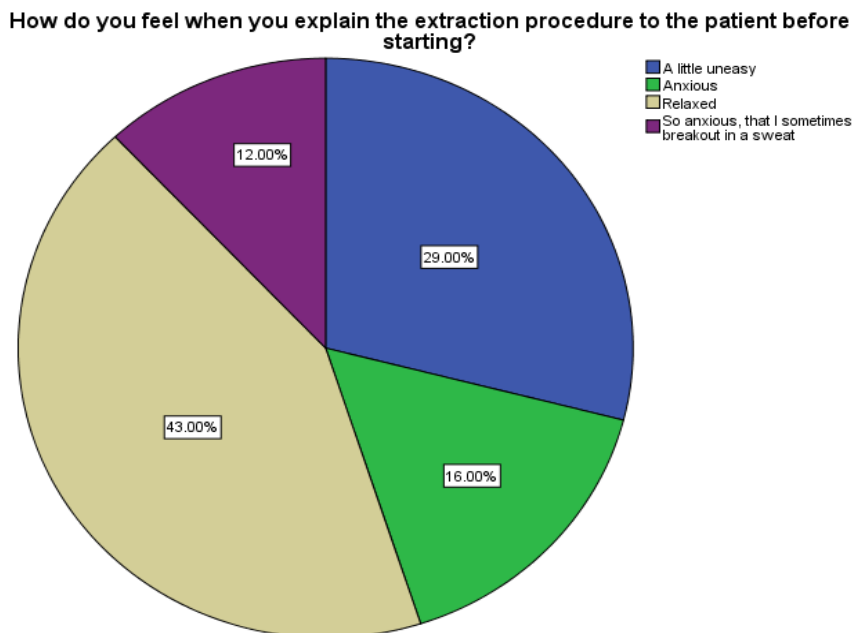


Fig 7: Pie chart showing the percentage of response of participants as to how they felt while explaining the extraction procedure to the patient. 43% of the participants felt relaxed, 29% of the participants felt a little uneasy, 16% of the participants felt anxious and 12% of the participants felt so anxious that they sometimes start sweating.

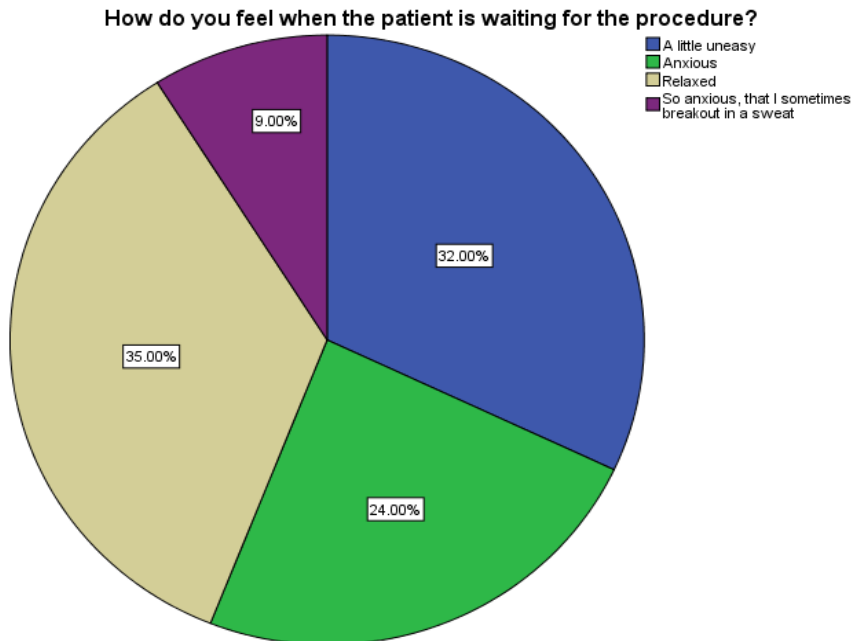


Fig 8: Pie chart showing the percentage distribution of participants as to how they felt while the patient was waiting for the procedure to commence. 35% of the participants felt relaxed, 32% felt a little uneasy, 24% felt anxious while 9% felt extremely anxious.

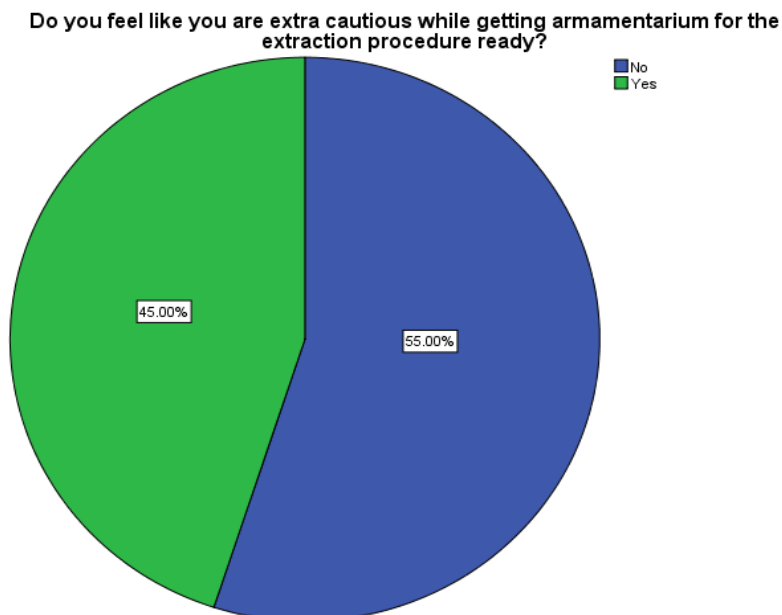


Fig 9: Pie chart showing the percentage of participants who were extra cautious while getting the armamentarium for the extraction procedure ready. 45% of the participants were extra cautious while 55% were not so cautious.

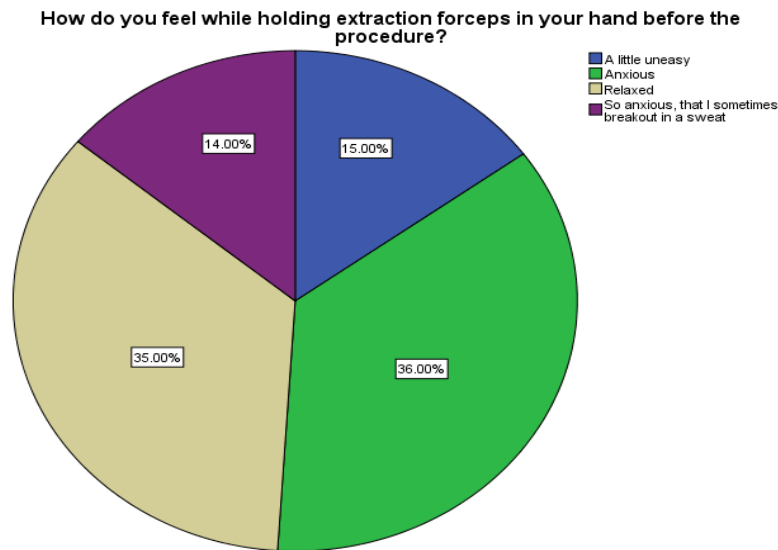


Fig 10: Graph showing the percentage of response of the participants to the question how they while holding the extraction forceps in their hand before the commencement of the procedure. 35% of the participants felt relaxed, 15% of the participants felt uneasy, 36% of the participants felt anxious and 14% of the participants felt extremely anxious.

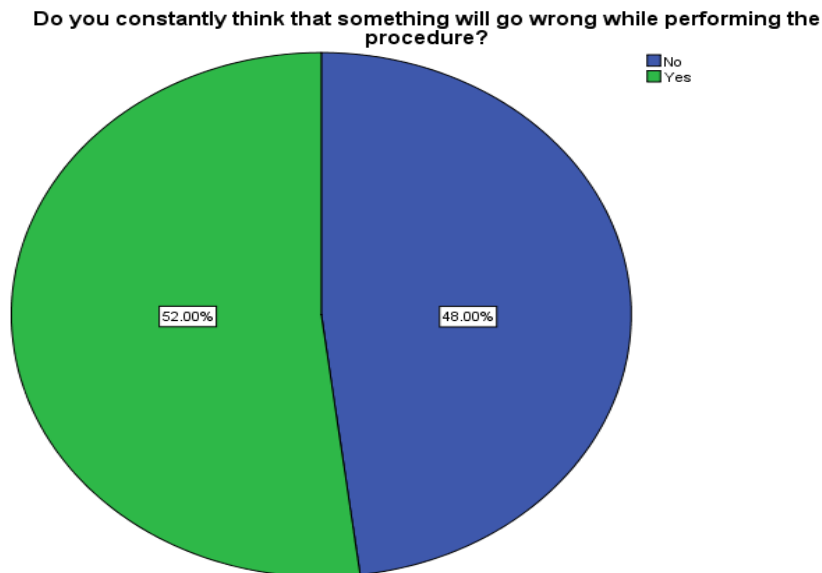


Fig 11: Pie chart showing the percentage of participants who constantly think something might go wrong while performing the procedure. 52% had this thought in mind throughout the procedure while 48% did not.

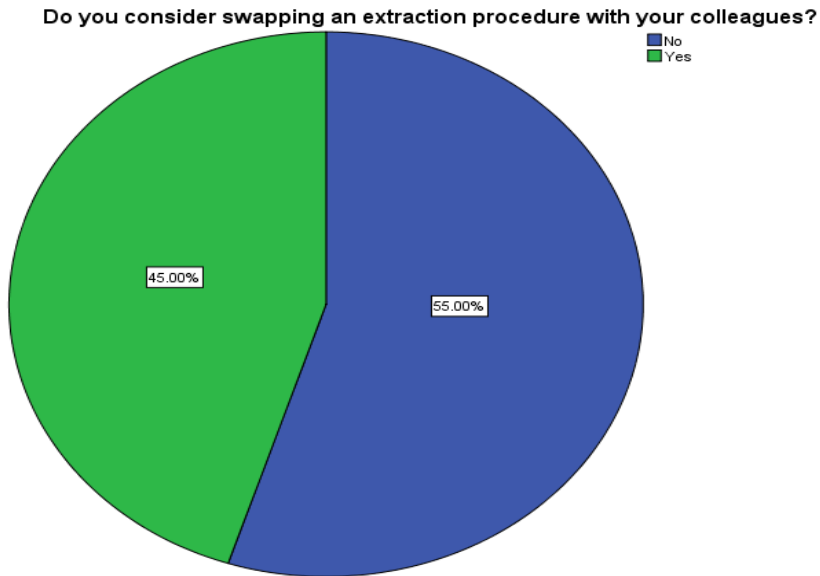


Fig 12: Pie chart showing the percentage of participants who considered swapping an extraction procedure with a colleague. 45% thought about this before the procedure while 55% did not.

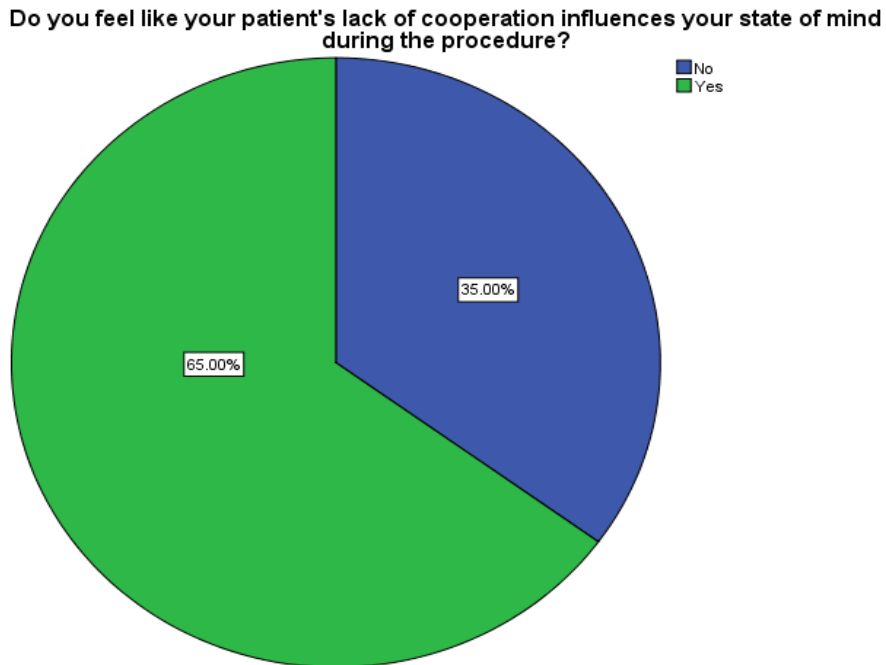


Fig 13: Pie chart showing the percentage of responses of the participants as to whether they felt that lack of cooperation from the patient's side influences their state of mind. 65% felt that it did influence their mindset while 35% said that this had no influence on their state of mind.

Does the age of your patient influence your state of mind during the procedure?

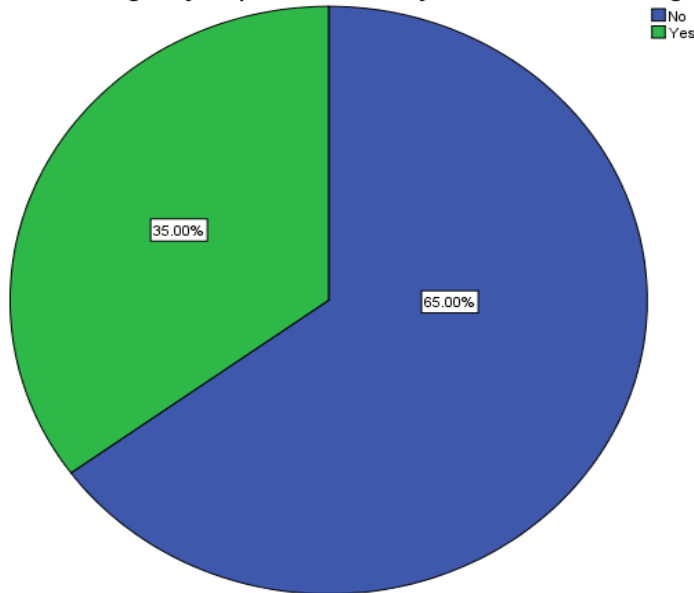


Fig 14: Pie chart showing the percentage of participants who felt like the age of their patient influenced their state of mind during the procedure. 35% of the participants felt like this did affect their mindset while 65% of the participants felt like this had no influence on their mindset.

On a scale of 1 to 5, how will you rate your anxiety towards extraction procedure?

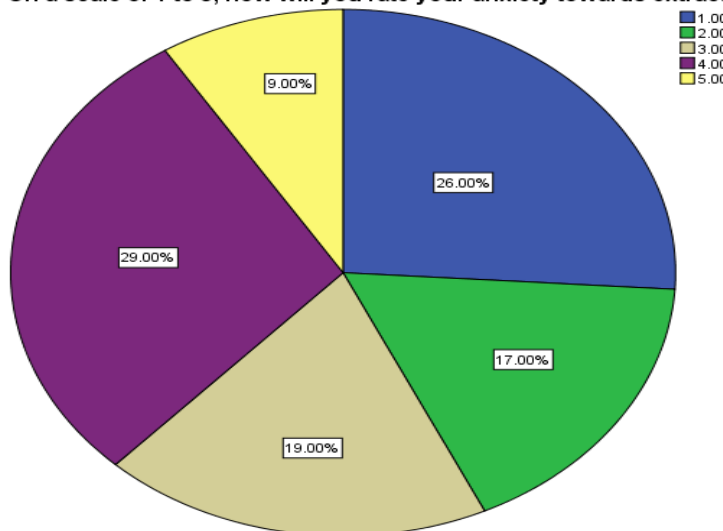


Fig 15: Pie chart showing the self-rated anxiety levels among the participants in percentage. 26% of the participants rated their anxiety as level 1, 17% rated their anxiety level as 2, 19% rated their anxiety level as 3, 29% rated their anxiety level as 4 while 9% rated their anxiety level as 5.

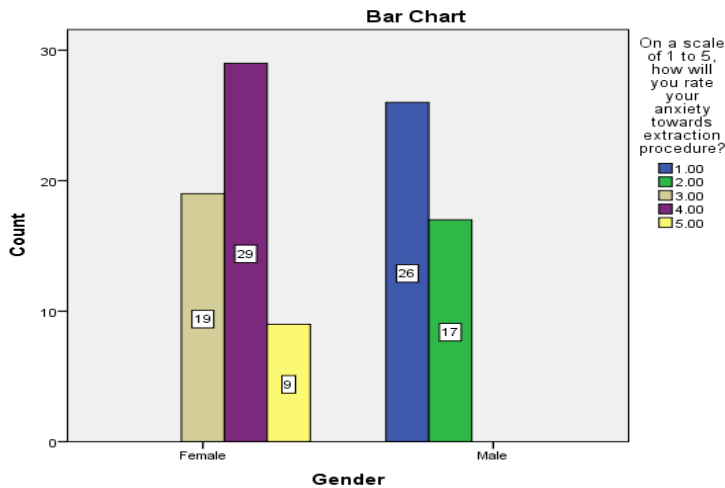


Fig 16: Bar graph showing association between Gender and the number of participants. X axis represents gender while the y axis represents the number of participants. Blue represents anxiety level 1, green represents anxiety level 2, beige represents anxiety level 3, magenta represents anxiety level 4 and yellow represents anxiety level 5. The highest response was anxiety level 4 by females. The difference was statistically significant (Chi-Square test, p-value =0.000 - significant).

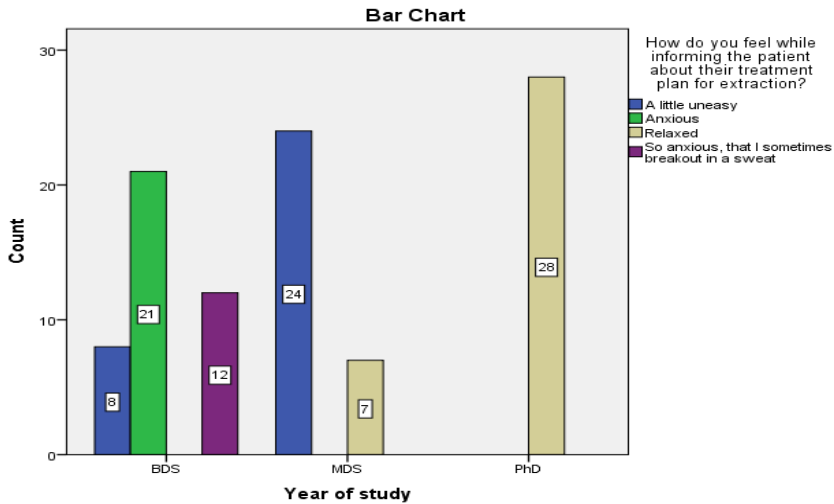


Fig 17: Bar graph showing association between Year of study of participants and the number of participants. X axis represents the year of study while the y axis represents the number of participants. Beige represents relaxed, blue represents a little uneasy, green represents anxious and magenta represents extremely anxious. The highest response was relaxed given by PhD students. The difference was statistically significant (Chi-Square test, p-value =0.000 -significant).

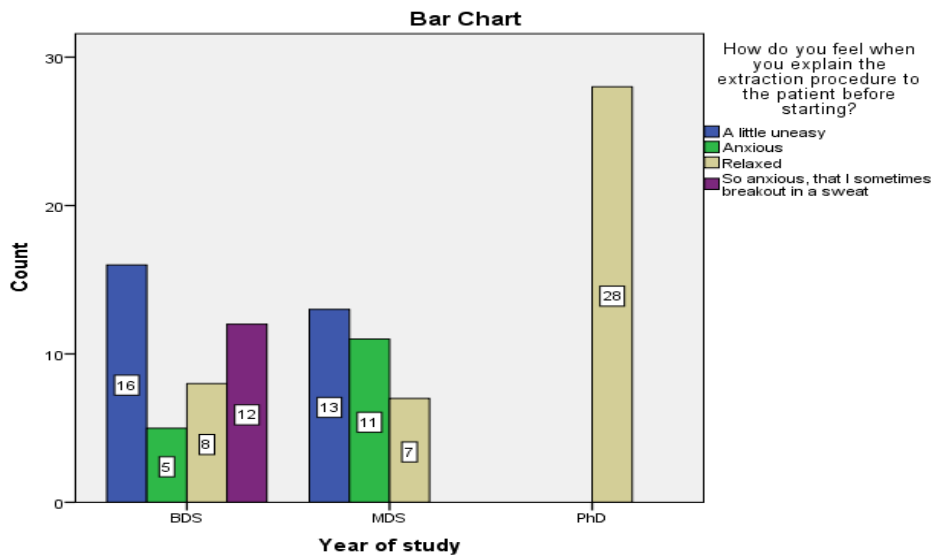


Fig 18: Bar graph showing association between Year of study of participants and the number of participants. X axis represents the year of study while the y axis represents the number of participants. Beige represents relaxed, blue represents a little uneasy, green represents anxious and magenta represents extremely anxious. The highest response was relaxed given by PhD students. The difference was statistically significant (Chi-Square test, p-value =0.000 -significant).

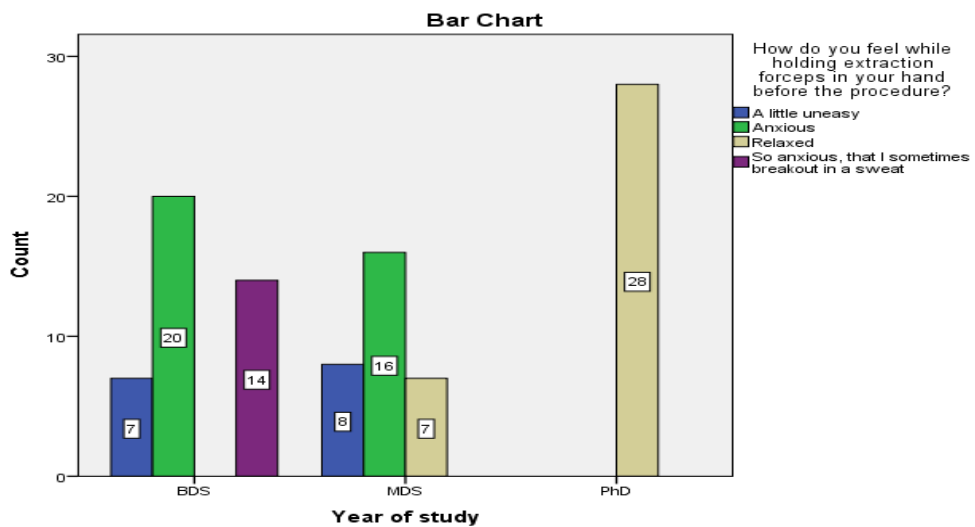


Fig 19: Bar graph showing association between Year of study of participants and the number of participants. X axis represents the year of study while the y axis represents the number of participants. Beige represents relaxed, blue represents a little uneasy, green represents anxious and magenta represents extremely anxious. The highest response was relaxed given by PhD students. The difference was statistically significant (Chi-Square test, p-value =0.000 -significant).

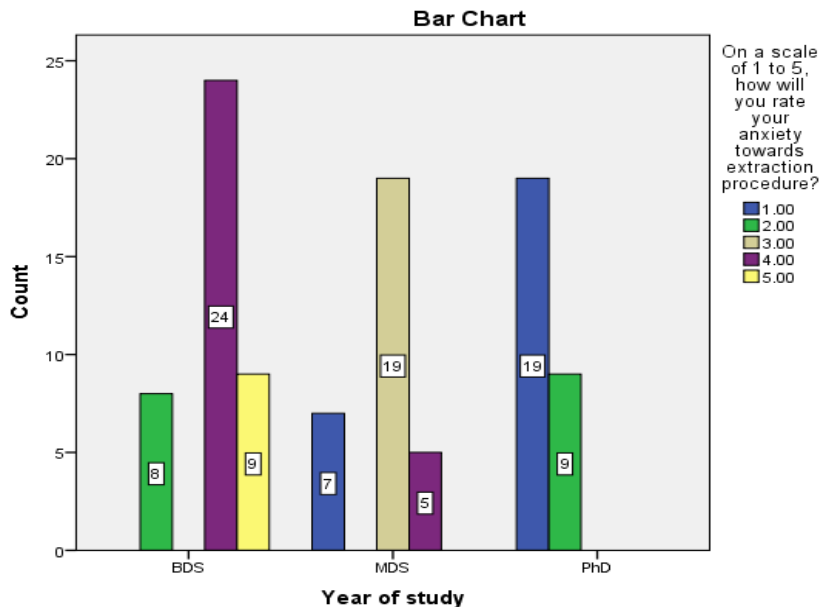


Fig 20: Bar graph showing association between Year of study of participants and the number of participants. X axis represents the year of study while y axis represents the number of participants. Blue represents anxiety level 1, green represents anxiety level 2, beige represents anxiety level 3, magenta represents anxiety level 4, yellow represents anxiety level 5. The highest response was anxiety level 4 given by BDS students. The difference was statistically significant (Chi-Square test, p-value =0.000 -significant).

Discussion

Out of the 100 participants who took up the survey, 57% were females while 43% were males. 28% of participants belonged to the age group 18-21 years, 26% belonged to the age group 22-24 years, 29% belonged to the age group 25-28 years and 19% of the participants were above 28 years of age. 41% of participants were from BDS, 31% MDS and 28% PhD. When asked whether the participants were aware of all the names of armamentarium used for extraction, 63% answered yes while 37% answered no. When asked how the dental student felt while informing patients about their treatment, 35% felt relaxed, 32% felt slightly uneasy, 21% felt anxious, 12% felt so anxious that they broke out into a sweat. When asked whether the dental students check for other treatment modalities prior going for extraction, 69% replied with yes while 31% replied with no. When asked how the participants felt while explaining the extraction procedure to the patients, 43% felt relaxed, 29% felt a little uneasy, 16% felt anxious and 12% felt extremely anxious. When asked how the dental students felt while the patient was waiting for the commencement of the extraction procedure, 35% answered that they were relaxed, 32% felt a little uneasy, 24% felt anxious and 9% felt extremely anxious and experienced sweating at times. 45% of the participants reported that they were extra cautious when getting armamentarium for the extraction procedure ready while 55% of the participants did not feel so. 35% of the participants felt relaxed while holding the extraction forceps in their hands before

the procedure, 15% felt a little uneasy, 36% felt anxious and 14% felt extremely anxious. 52% of the students constantly had the thought that something might go wrong throughout the operating time while 48% had no such thought. When asked whether the students considered swapping an extraction procedure with a fellow dentist, 45% replied with a yes while 55% rather do the procedure on their own. 65% of the students felt that their patient's lack of cooperation influences their state of mind during the procedure while 35% thought that this had no effect on them. 35% of the students felt that their patient's age influences their state of mind while 65% felt that age had no effect on their state of mind. When asked to self assess their anxiety levels towards extraction, 26% rated their anxiety level as 1, 17% rated their anxiety levels as 2, 19% as 3, 29% as 4 and 9% rated their anxiety level as 5.

Association was drawn between gender and number of responses. It was found that 19% of the participants with anxiety level 3 were female, 29% of the participants with anxiety level 4, 9% of the participants with anxiety level 5 were females, 26% of the participants with anxiety level 1 were males, 17% of the participants with anxiety level 2 were males.

8% of students who felt uneasy while informing their patients about their treatment plan were BDS students while 24% were MDS students. 21% of the students who felt anxious belonged to BDS. 12% who felt extremely anxious also belonged to BDS. 7% of the students who were relaxed belonged to MDS while 28% of the participants belonged to PhD.

Students were asked how they felt while explaining the extraction procedure to their patients. Out of the students who were studying BDS who attended this survey, 16% felt a little uneasy, 5% felt anxious, 8% felt relaxed and 12% felt extremely anxious. Coming to MDS students, 13% felt a little uneasy, 11% felt anxious and 7% felt relaxed. PhD students responded only with relaxation (28%). Students were asked to self assess anxiety levels. Out of BDS students, 8% answered with 2, 24% answered with 4 and 9% answered with 5. Out of MDS students, 7% answered with 1, 19% answered with 3, 5% answered with 4. Out of PhD students, 19% answered with 1 and 9% answered with 2.

In the present study, females were found to have greater anxiety levels about extraction than males. In a recent study conducted to assess the stress levels in clinics among dental students, female students scored higher stress than male students did in most of the domains. (31) This was in accordance with our results. In another study In gender comparison, men suffered more stress (62.9%) than women (60.1%) (6) Also in our study the age of the patient did not affect the state of mind of the student that much. In a recent study, it was found that a minimal amount of stress is always present while handling pediatric patients. Also it was found that among all dental students, the majority of 3rd-year students and few final year students were stressed while performing extraction (4) In our study it was found that anxiety levels towards extraction were highest in BDS students, followed by MDS students then finally PhD students. In a recent study conducted to determine stress and anxiety levels, BDS students were found to have the highest anxiety levels. (32) In another study conducted it was found that the main sources of stress were found to be fear of facing parents after

failure, full loaded day, and fear of failing course or year. Students whose first choice of admission was dentistry experienced less stress than students whose first choice was another field. Also the students who joined dentistry due to parental pressure showed greater stress than those who joined of their own accord, (33) The limitations of this study include limited sampling size and homogeneous population. This study helps us assess the anxiety levels among dental students and hence help in finding ways to cope with the stress.

Conclusion

Within the limitations of this study we find that females had higher anxiety levels towards performing an extraction procedure than males. Also BDS students had higher anxiety levels than MDS and PhD students towards extraction. Hence it can be said that with experience, fear decreases and hence anxiety decreases. It is important to cope with stress and anxiety as it can have a deleterious effect on mental as well as overall well being of the student.

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We thank Saveetha Dental College and Hospitals for providing us the support to conduct the study.

Conflict of Interest

The author declares that there was no conflict of interest in the present study.

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