

Anxiety level toward dental treatments among students from various professions – A survey

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ABSTRACT

Background: Dental anxiety is the fear toward dentistry or dental treatments. This uncomfortable feeling not only can be seen among children but it can be observed also in adult patients. Many factors can influence the development of fear toward dental treatment. **Aim:** The aim of the study was to assess level of anxiety among university students from various professions toward dental treatments. **Materials and Methods:** A total of 150 students from various professional courses were involved in this questionnaire survey. A self-administered questionnaire consists of 15 multiple-choice questions was prepared to obtain the anxiety level toward dental treatments. Each question had three options, with score 1 for A, 2 for option B, and 3 for option C. The range of possible score was 15–45. Anxiety level toward dental treatments among students from various professions had been determined using modified Corah’s anxiety scale. The total score for each student was calculated and it was grouped into three levels which were low, moderate, and high level of dental anxiety. A score of 15–30 indicates low dental anxiety, 31–38 represents moderate dental anxiety, and a score of 39–45 indicates high level of dental anxiety. **Results:** In this current study, a total of 150 people including 50 dental students, 50 managements, and 50 law students were completed the survey. On analysis of the responses based on modified Corah’s scale, it was found that 50% of management students had high level of anxiety followed by 38% of law students and only 20% of dental students fall in the high anxiety level with score of 39–45. **Conclusion:** Dental students had the lowest level of anxiety toward dental treatments. Management and law students were very tensed and agitated about dental treatment.

KEY WORDS: Anxiety levels, Dental students, Dental treatments, Law students, Management students, Modified Corah’s anxiety scale

INTRODUCTION

In dental practice, fear especially fear toward dental treatment is just a common thing. It may cause dilemma not only for practitioners but also for the patients as well. The main impact of having dental fear is they tend to delay or avoid from visit to dental office.^[1-4] The level of fear or anxiety can vary in different social groups and tribes.^[5] The level of anxiety mostly depends on age, sex, social status, and education level.^[6-8] Other factors that may affect anxiety toward dental treatment including family environment, dental practitioner encounters shared by

others, and proficiency level to influence uneasiness to shift degrees. There are two types of fear in dental practice which are normal fear and pathological fear. Normal fear can be described as a physiological, behavioral, and emotional response toward object or in a feared condition whereas pathological anxiety is described as loss of original signaling function of anxious response.^[9] Patients experienced this kind of condition have exaggerated responses even by harmless object or in a normal situations.

Anxiety and fear are closely related to each other. Meanwhile phobia is an opposite term for fear and anxiety. It is a mental disorder involving a marked fear or avoidance for particular object, which can cause disturbances or emotional distress.^[10] Some factors such as false belief toward dental treatment, superstitious,

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and view from surrounding members may cause wrong perception regarding dental treatment and lead to dental phobia. Pain is known as physiological process and can be known as exaggerated pain or pain due to perception. Dental practitioners should have thorough knowledge to differentiate whether the patients being in discomfort due to pain or fear. One of the most stressful and fear evoking aspects in dental treatment for most of the anxious patients was the administration of local anesthesia. However, there is numerous additional fear evoking aspects rather than just due to fear toward pain.^[11,12] Other conditions might be due to psychological conditions such as depression, past exposure of sexual abuse, or phobia disorder. All these conditions might be directly or indirectly impacted their anxiety toward dental treatment.^[13-19] Successful local anesthesia is the bedrock of pain control. Fear and anxiety associated with dental treatments will be reduced if pain control is successful.^[20] Fear toward pain also might lead to improper diagnosis of the actual problem.^[21,22]

According to the previous investigation, 169 Japanese dental and nursing students found that the most fear-provoking items in dental office were the sight and feeling of the needle and sound of the drill.^[23] This discomfortable feeling actually would be the leading factor for them to neglect or putting of dental care.^[24-26] Some other negative consequences associated with high level of anxiety toward dental treatments are they might completely avoid themselves from going to dental office for dental treatment. Moreover, they would neglect their teeth and oral hygiene.^[27] Based on Armfield *et al.*, people experienced high level of anxiety usually would be accompanied by an increased number of decayed and missing teeth. It was proved that anxiety patients may have an impaired quality of life.^[28] There are a lot of theories that have been proposed to describe or explain the reason why an individual can develop anxiety toward dental treatments. Based on theory of classical conditioning, fear can be triggered due to negative or traumatic experiences in previous dental treatment. Based on Armfield in 2010, anxiety or fear toward dental treatment can be developed through cognitions rather than experiences. Hence, perception of an object or situation as disgusting, dangerous, unpredictable, and uncontrollable is compulsory. In general, onset of anxiety or fear during dental treatment related to both individual vulnerability and traumatic dental care experiences.^[29-31]

There are few therapies or techniques that can be implied for treating anxiety toward dental treatments. The most favorable therapies used are psychological behavioral techniques and pharmacological agents such as benzodiazepines and nitrous oxide.^[32] Pharmacological agents which

act as sedation commonly will be used when the psychological techniques are ineffective.^[33] It can cause odontophobic patients to be more favorable toward psychological approach and at the same time it can reinforce the effect of behavioral therapy.^[34] A broad writing survey uncovered that a few psychometric indexes have been created to measure the level of anxiety toward dental treatment among patients. Researchers shift in their methodological utilization of a arrangement of surveys, single address studies, and expressive interviews. Actually, no single device is sufficient to decide the complete preview of an anxious patient. Many scales have been designed to determine dental anxiety and modified Corah anxiety was proven to be the most likely method that had been used among dental researchers. The scale is more comprehensive, highly valid, and reliable. The idea of investigating the dental fear levels among different student populations are due to lack of educational program that is focusing in enhancing dental awareness and shortage of information regarding field of study and dental anxiety levels. Therefore, this study is being done to assess the anxiety levels among university students from various professions toward dental treatments.

MATERIALS AND METHODS

A total of 150 students were involved in this current study. A questionnaire survey which consists of 15 multiple choice questions was circulated among 50 dental students, 50 management students, and 50 law students. The questions were directed to get information regarding the frequency of dental visit, and the reason for avoiding or delaying their dental treatment, their previous experiences in dental clinic and also about their feeling before and after dental treatment. The same questionnaires had been completed by all the students from different courses. Anxiety level among all of the students was assessed based on modified Corah's anxiety scale (dental anxiety scale [DAS]) which was being modified by the original Corah anxiety scale.^[19] All the questions in the questionnaire would have three options. The students would get score of 1 for option A, score of 2 for option B, and a score of 3 for option C. The range of possible score was 15–45. The total score for each student was being calculated and it was grouped into three levels which are normal, moderate, and high level of dental anxiety. A score of 15–30 indicates normal dental anxiety, 31–38 represents moderate dental anxiety, and a score of 39–45 indicates high level of dental anxiety.

RESULTS

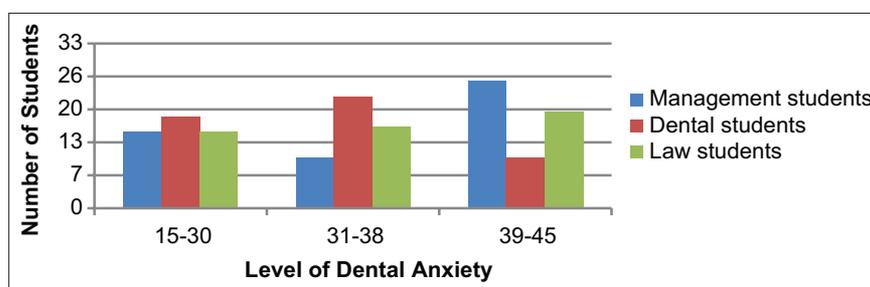
The present study reveals that 36% of dental students had lower anxiety level (score 15–30) followed by

law and management students with a percentage of 30% for both the categories. It could be observed that a percentage of 44% of dental students had moderate anxiety level toward dental treatments followed by the law students (32%) and then management students (20%). For the highest score of anxiety level (39–45), management students had the highest percentage which was 50% followed by law students with a percentage of 38% and dental students with a percentage of 20% [Graph 1 and Table 1].

DISCUSSION

One of the major concerns in clinical practice that should be dealt with and managed for proper oral health care is the anxiety level toward dental treatments. Therefore, the current survey was conducted to investigate the anxiety level toward dental treatment among various professions based on modified Corah's anxiety scale. This scale is a modified version of the original Corah's DAS which had been widely used in dental research. According to the present study, it can be observed that dental students had the lowest level of anxiety toward dental treatments, with a total percentage of 20% followed by law students having a percentage of 38% and management students (50%). There were few hypotheses that can support the findings regarding the differences between the student groups. These might be due to the contents of the field of study, regarding the individuals who seek or different fields of study or combination of both. To conclude, the findings that dental students had lower level of anxiety toward dental treatments may be due to the fact that they have more practical knowledge about dentistry than management and law students. During university life, dental students have begun their practical sessions as early as when they are in 3rd year. In the same year also, they had been practiced to do simple treatment to their patients such as giving local anesthesia, tooth extraction, and tooth restoration.

These results are similar to one of the previous studies from Al-Omari and Al-Omiri^[22] where it had been displayed that nondental students showed high level of anxiety toward dental treatments, and it had been concluded that the reason behind this condition is due to less clinical exposure. Another study carried out by Sghaireen *et al.*^[35] at Arab Saudi, it had been proved that level of anxiety toward dental procedure among dental students was lower than medical students. Other than that, a study which had been investigated by Hantash *et al.*^[36] in 2014 at Al Quds University, Palestine also had the same result. It was found that dental students were less anxious when compared with medical and pharmacy students. In the present study, management students showed the highest level of dental anxiety for the scoring of 39–45 with a total percentage of 50% of students, which indicates a highly anxious patient. Even though dental students got the lowest anxiety level the dentists should always be aware of the patient's possible adverse reaction or distress as some of them may try to avoid showing their anxiety in order not to interfere with the ongoing dental treatment.^[37,38] A brief explanation for the low level of anxiety toward dental treatments among dental students may be due to selection between personality traits and field of study. For example, dental students are continuously exposed to theoretical and practical requirements. Therefore, students can cope in a better way toward psychological stress and make them less feared toward dental treatments. In addition, law students and management students might also experience a stressful academic life, but their level of anxiety toward dental treatments was still higher. The reason for this kind of condition may be due to less practical session among law and management students. Hence, the practical session of dental education may be the prime factor to reduce level of anxiety. Patients fear and anxiety which in turn might



Graph 1: Anxiety level toward dental treatments among students from various professions

Table 1: Anxiety level (based on modified Corah's anxiety scale) among various professions

Anxiety level	No. of management students <i>n</i> =50 (%)	No. of law students <i>n</i> =50 (%)	No. of dental students <i>n</i> =50 (%)
15–30	15 (30)	15 (30)	18 (36)
31–38	10 (20)	16 (32)	22 (44)
39–45	25 (50)	19 (38)	10 (20)

end with poor patient compliance may be due to the lack of dental health education. Students that do not relate to the dental field only got a little of information regarding dental awareness.

On the other hand, dental field-related students do have the opportunity to understand and have clear ideas on dental care, and thus they will develop better dental behavior compared to other students. As for the above reasons, dental treatment can still be stressful for non-dental students, whereas dental students will be more calm during dental treatment. This may partly describe the relatively higher scores of anxiety level within the nondental students when compared to their dental peers. Based on the previous study by ter Horst and de Wit, it was reported that irregular dental attendance and fear of pain might be the bases for explaining the presence of higher levels of anxiety among the students in this study.^[39] The frequency of attendance to dental office for dental treatment was largely ignored among participants. They should at least visited dental office twice in a year for general checkup even if they do not have any problem with their oral cavity. In this study, law students had the least score for attending dental office for checkup when compared to student from another course and they did have a higher level of anxiety. This scenario supports that frequency of seeing a dentist is interdependent with the level of anxiety. As most of the dental treatments such as extraction of tooth, root canal treatment, and periodontal procedures mandatorily required administration of local anesthesia, hence, fear of pain may be the main issue which causes these particular students to have high level of anxiety toward dental treatments.^[40] Management students and law students were reported to be more tensed and agitated when they were waiting for their turn in dental clinic. Level of dental anxiety in an individual may be reduced by having good dental health education and regular dental visits. In view of the current available data, it seems that further dental health education measures are needed to be applied among the nondental students and for general people to reduce dental anxiety and therefore enhancing patient dental attitudes and compliance. Negative effects of personality and dental anxiety can be overcome by having proper standards of dental health knowledge and education. Students from health sciences courses are the main resources of health education for general population. Therefore, they should be well prepared with oral health knowledge to show better dental behavior and in turn they can teach other people about the importance of dental health and dental treatment also. Creating awareness about oral health knowledge and regular dental education could reduce fear or level of anxiety toward dental treatments among health sciences students. The importance of dental health education should be taught at pre-university level,

and special emphasis should be given in the curricula of university health sciences to overcome the fear of dental treatment among university health sciences students.

CONCLUSION

From this study, it can be concluded that dental students had the lowest degree of anxiety toward dental treatments. Management and law students were very tensed and agitated about dental treatment. The students were mostly anxious, especially during local anesthetic injection. The most important factors that contribute to the higher level of anxiety are due to feeling of fear, scare of pain, dental phobia, and less frequency of dental treatments. Dental awareness program should be increased in educational as well as general population so that fear or anxiety level toward dental treatment can be reduced.

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