

## Original Research Article

# Evaluation of the factors related to dental anxiety in North Indian population: a questionnaire study

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## ABSTRACT

**Background:** To evaluate the factors affecting dental anxiety level on the basis of a questionnaire in the North Indian Population.

**Methods:** A questionnaire based on the various factors related to dental anxiety was formulated and distributed among the various regions of the north India. We got response from 250 people, the data was then analysed and results were formulated.

**Results:** Out of 450 questionnaires which were distributed, a total of 400 questionnaires were received. Overall high prevalence of dental anxiety i.e. 85% was noted. More increased values for anxiety were seen for people younger than 30 years (70%), compare to that of elder people (30%). Females seem to have greater anxiety levels as compared to males (p value >0.000). Among 450 people 176 had visited clinics previously with 98 having bad experience (55.6%) and 78 people having a relatively good past dental experience (44.2%).

**Conclusions:** Anxious patients are often more difficult to treat, therefore the questionnaire proved beneficial in estimating factors related to dental anxiety. Young people, women and those having negative dental experience had the highest anxiety levels.

**Keywords:** Anxious patients, Dental anxiety, Odontophobia

## INTRODUCTION

Dental anxiety is one of the most common known reasons for lack of proper oral care. It is basically the fear related to the dental treatment termed as “Odontophobia” which keeps people away from the dental clinics.<sup>1</sup> The result of dental anxiety not only leads to delay in the dental treatment but also impacts the behaviour of the patients towards the treatment resulting in worsening of the oral

health of the patient.<sup>2</sup> Anxiety towards the dental treatment does not depend on single factor but is known to be multifactorial where a lot of factors are responsible for inducing the anxiety towards the dental treatment. Some of the factors which are known to be associated to the dental anxiety include the age gender and past experiences on the dental chair. So in this study we designed a questionnaire to find out the relation of some of the factors with dental anxiety in the North Indian

population. There are numerous studies on dental anxiety, but as per our knowledge no such study has been done on the North Indian population.

## METHODS

A questionnaire was formulated and circulated among the various people visiting the dental clinics and dental colleges in the Northern regions of India on February 2020. The criterion of the study was formulated to make it clear and simple.

### Inclusion criteria

Patients participating willingly in the survey, patients older than 18 years and younger than 65 years, patients who can read and understand the questionnaires were included in the study.

### Exclusion criteria

Patients suffering from any psychiatric disease or taking any antipsychotic drug, edentulous patients, patients who are not willing to participate in the survey, patients who are medically compromised, patients suffering from any physical and mental illness and completely illiterate patients were excluded from the study.

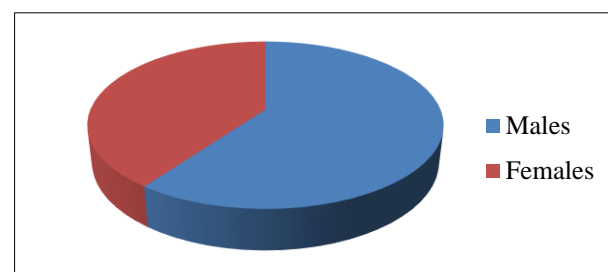
A total of 450 questionnaires were distributed out of which we got response to 400 questionnaires. The questionnaire was framed on the questions mainly involving the age and gender of the patient, had the patient previously visited any dental clinic (Yes / No), how was the experience in the past if he/she had a visit to the dentist (Good / Bad), the feeling the patient had, when he/she was waiting for his turn in the clinic, when the dentist was about to start tooth drilling and when the dentist was about to give local anesthesia.

We divided the questionnaires on the basis of two categories, i.e. below or equal to 30 years or above 30 years. For question number 5 the participants were told to choose any response from 1-5. Final scores were analysed as non-anxious 3-5, mildly anxious 6-9, moderately anxious 9-12, highly anxious 12-15. The data was then collected and analysed using SPSS 11.5. The comparison between the two genders, age and the first/subsequent visits was done by unpaired 't' test. The level of significance was set to be 0.05.

## RESULTS

Out of 450 questionnaires which were distributed, a total of 400 questionnaires were received (response rate 88.9%). Total number of male patients was 240 (60%) and that of females was 160 (40%) (Figure 1). The number of patients who had previously visited the dental clinic was 176 (44%). Patients who had visited a dentist earlier had significantly higher mean dental anxiety scores ( $p=0.04$ ). It was noticed that dental anxiety was

significantly higher in females than males ( $p<0.0000$ ) (Table 1). Two age groups were compared above 30 years and below 30 years, which showed a higher anxiety level in the younger generation (i.e. - below 30 years). On the basis of past experiences people who had a good experience showed lower anxiety levels as compared to those having a bad past experience (Table 2).



**Figure 1: Prevalence of males and females in response to dental anxiety.**

**Table 1: Comparison of males and females with respect to their anxiety scores.**

| Gender | Number | Mean | Standard deviation | P value |
|--------|--------|------|--------------------|---------|
| Male   | 240    | 9.5  | 3.90               | 0.000   |
| Female | 160    | 11.8 | 4.30               |         |

**Table 2: Comparison of past dental experience.**

| Total no. | Past experience | Number | Mean  | P value |
|-----------|-----------------|--------|-------|---------|
| 176       | Bad             | 98     | 10.70 | 0.004   |
|           | Good            | 78     | 9.83  |         |

## DISCUSSION

The concept of oral health is not that much developed in the developing and underdeveloped countries as compared to the developed ones, the reason being multifactorial one of which is the anxiety towards the dental treatment. With the advancement in technologies in the treatment protocols in the field of dentistry the procedures are becoming simpler and cost-effective but the one thing that still keeps the patients away from the dental clinics is the anxiety towards the dental treatment. Weiner and Sheehan (1990) categorised dentally anxious people according to its relevant source into exogenous and endogenous groups. Dental anxiety in exogenous group occurs because of past and present dental experiences related to trauma or explicit learning. Endogenous group results due to vulnerability to mood, anxiety and multiple fear disorders.<sup>3</sup> Negative dental experiences, influence of media, environmental factors, and pain are some of the factors playing an important role in development of dental anxiety.<sup>4</sup>

There are many studies which relate the anxiety towards a dental treatment with age of the patient, past negative

experiences in the dental clinics and anxiety towards the procedures in the dental clinic.<sup>3-5</sup> Carter et al. in his article said that anxiety hinders the provision of routine dental treatment on a daily basis for most dental practices.<sup>6</sup> So we formulated a questionnaire and distributed among the people of various regions of North India to check the cause of dental anxiety in this region.

In our study the prevalence of anxious patients was quite high ranging to a maximum of 85 % when we calculated the anxiety levels between various groups we found that most of the young patients (below 30 years) (70%) were more anxious to dental treatment than the older age groups (30%), which can be explained on the fact that high percentage of young patients are usually more apprehensive.<sup>7</sup>

Other researches which support this fact say that anxiety might decrease with age include the ability to cope with experiences or the phenomenon may be due to the ageing process itself characterized by a general decline in anxiety.<sup>8,9</sup> When gender was compared we found a relation between the gender of the patient and anxiety. Females seemed to be more anxious to dental treatment as compared to males which can be explained on the studies done which have shown women to have a lower tolerance to pain thus having high anxiety levels.<sup>10-12</sup>

Comparing our last factor for the dental anxiety we found that there was a direct link between the past dental experience of the patient and anxiousness of the patient. Out of 450 patients 176 had past dental experiences out of which had a bad experience in the dental clinic. The patients having good past dental experiences were less anxious to dental treatment when compared to those which had a bad experience previously.

### Limitations

The only limitation to this study was small size of the sample and restricted questions in the questionnaires due to less patient cooperation. There are further more factors still unexplored regarding dental anxiety. A study with increased sample size and increased number of questionnaires can prove better in understanding this less explored zone of dentistry.

### CONCLUSION

Dental anxiety was more in younger patients in the when age was considered, females seemed to have greater anxiety than males, and the most important factor was the past experience which is certainly the most important factor related to a patient being anxious towards a dental treatment. As anxiety play a crucial role in the co-operation of the patient towards the dental treatment. So, the study had a valid role in understanding the factors

associated to dental anxiety. Improvement of quality of dental care and life can be achieved by allaying patient's anxiety on cropping up a dental issue.

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