

## The effect of dentist gender on the anxiety level of visiting children

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### Suggested Citation:

Ferdosipour, A. & Jahangiri, M. (2021). The effect of dentist gender on the anxiety level of visiting children. *International Journal of Emerging Trends in Health Sciences*. 5(2),32-40. <https://doi.org/10.18844/ijeths.v5i2.5468>

Received from April 17,2021; revised from June 9,2021; accepted from August 12,2021.

Selection and peer review under responsibility of Prof. Dr. Nilgun Sarp, Uskudar University, İstanbul.

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### Abstract

Anxiety and fear of dentistry are some of the common topics among most children. The purpose of this study is to survey the effect of therapist gender on the anxiety of children. Due to considerable hypotheses and questions in this study, the t-dependent method is used to reach results. Zung questionnaire was used for the assessment of children's anxiety to 8 years old age, which was included 20 questions that considered a physical and mental condition of anxiety, which is based on the spectrum scales of not being, low, medium, and high. The statistical community consisted of 60 people obtained through a random selection of samples. The results arising from this study showed that children have more cooperation and calmness with female therapists, and their anxiety is less than the children who were treated by male therapists.

**Keywords:** Children anxiety, therapist, gender, visiting children, dentistry

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## 1. Introduction

The important events which affect life are along with stress and anxiety. Based on the idea of Holmes-Rahe (1967 as cited in Noone, 2017), encountering many stressful situations causes undesirable consequences for mental health. The purpose of anxiety, worry, or phobia is to create that vague and undesirable feeling of fear, which is unpleasant, and causes uncertainty of physiological helplessness. Anxiety disorder involves four factors: physiological sign, cognitive sign, behavioral sign, and emotional sign (Atkinson, 1983). Sometimes the anxiety which has no certain origin leads to unrest and tension; perhaps the detection of reasons for anxiety is more severe in children.

One of the common anxieties in children is from dentistry clinics. This fear causes non-visit to the dental clinic, which damages them (Amin et al., 2019). In the study of Pakdaman, et al., (2015) in an article titled "the effect of narrative therapy on the anxiety of pain and anger of dentistry in the children", the obtained results established that narrative therapy can be effective as the method of selective psychotherapy in decreasing the anxiety of pain and anger of dentistry for children.

In the researches of Jabarifar et al., (2014) in an article titled "the comparison of fear and anxiety of 3-6 years old children subsequent for the treatments of dentistry", outpatient and anesthesia were surveyed in several medical clinics. At last, they concluded that using general anesthesia as a treatment method did not cause an increase in fear in people while they are being treated. Hence, this method can be used for control of children's behavior.

In the researches of Javadi et. Al., (2013) in an article titled "the relation of fear of dentistry in 6-8 years old with fear of their parents", they concluded that fear of parents could affect the fear of 6-8 years old children, and the cooperation degree of the child will be decreased or increased. The researches of Jafarzadeh et al. (2014) titled "the effect of parent presence on the anxiety of 4-8 years old children", the obtained results showed that parent presence has no effect on the level of a child's anxiety and his cooperation with the dentist.

In the researches of Baqeri ,Fallah, & Basharpour (2016), on " comparing the efficiency of regular desensitization and distraction on decreasing pain and fear of children with dentistry problems in several dentistry clinics", it was concluded that psychological interferences of regular desensitization and distraction on decreasing pain and fear of children with dentistry problems in several dentistry clinics can be used. In the researches of Nilchian and Mohammadi in 2013 on "surveying the amount of anxiety arising different applying of dentistry in 10-12 years old children in Shahr-e-Kord", the final result of anxiety of dentistry in 10-12 years old students of Shahr-e-Kord is low to medium, and the anxiety in the girls is more than boys. The most fear in dentistry applying is during the injection of Anesthesia ampoule and the least fear during teeth brushing.

Yavari et al., (2015) in an article titled "group therapy and dentistry stress of children in dentistry clinics", indicated that group therapy was effective in decreasing the amount of children stress. In the researches of Javadinejad, Tahmourespour, Ghasemi & Yazdi, (2013) titled "the relation of fear of dentistry in 6-8 years old children with the fear of their parents", they concluded that parent fear could affect the fear of 6-8 years old children, and the cooperation degree of the child will be decreased or increased.

The selection of the suitable method of children behavior control is the duty of the physician. The physician is responsible to create the appropriate treatment for the child, so as to have the least mental and physical damage on the child. Sometimes, anesthesia, sometimes relaxing and sometimes local anesthesia, is suitable.

In the researches of Kazemizadeh et al., (2011), titled “Dental Environment Stress and Students' Personality in Rafsanjan Dentistry School”, some results were obtained. The results arising were that the most and least obtained stress were 53.2 and 56.1, respectively. Also, in 84% of cases, the stress was from individual personality. The final result was that a high percentage of clients had stressful personality. In the researches of Chen et al., (2017) “A 10-year trend of dental treatments under general anesthesia of children in Taipei Veterans General Hospital. *Journal of the Chinese Medical Association*”, it was concluded that HRV, and ITM treatment method is the better trend for children and their cooperation in these methods is higher.

In the researches of Min et al. (2017) titled “a qualitative study of patients viewpoint from the techniques of dental anxiety decrease,” the results obtained established that dental anxiety affects 10 to 60 percent of the community. In the research of Kılıç et al., (2014) titled “Anxiety sensitivity: Another reason to separate dental fears from blood–injury fears?”, the result obtained was that there was no study for comparing dental phobia with the fear of bleeding directly.

In the researches of Oliveira et al., (2020) titled “Gingival inflammation influences oral health-related quality of life in individuals living in a rural area of southern Brazil”, it was concluded that with more care of child mouth, health could provide interdisciplinary cares for children in their life. In the researches of Parish et al., (2018) titled “intimate screening of children in dentistry environment”, it was concluded that making central IPV interferences in dentistry training and making cooperation in relation with general attitude change to the trend of tooth treatment helps to simplify IPV screening in dentistry environment.

In the researches of Al-Namankany, (2018) titled “Assessing dental anxiety in young girls in KSA”, it was concluded that tooth extraction, insentience, and anesthesia are the most common factors for dental anxiety, which seems to decrease during the process, while the child grows, but the highest score of tooth anxiety in 7-9 years old girls is reported. In other researches by Gabriel et al., (2018) titled “experiences and psychological needs of children under surgery and their parents”, it was concluded that dentistry background and the area of skill and ability of parents are efficient for providing primary needs of children in the cooperation of children.

### **1.1. Purpose of study**

Nowadays, anxiety and fear of dentistry are some of the topics which are so common and familiar, in which almost all children are faced with. If this issue is not solved, it follows many damages for children and even adults. This study is to survey the effect of therapist gender on the anxiety of children. Among the necessities of this study is that most children do not amend their teeth due to the fear of dentistry clinics. As a result, there will be many damages to their milk and permanent teeth and perhaps some fractures may be made in their teeth. With playfulness of children or by eating foods and lack of considering health, premature decays can occur. To prevent this type of decay, there is a need to evaluate the anxiety of children in dentistry clinics. Now, we investigate the relationship between gender of the child and its effect on anxiety, and to recognize the anxiety level of children while visiting a male physician or female physician?

## **2. Methods**

### **2.1. Sample**

In this study, the data were obtained as an objective and direct observation in which the type of variable relation is recognized as the fundamental research method. All dentists of Atlas medical building and Royan medical building located in west Tehran constitutes a statistical community of this study. The statistical sample was 25 girls and 25 boys who were 3 to 8 years old.

## 2.2. Data collection method

In this study, a Zung anxiety questionnaire was utilized..

### 2.2.1. Zung Anxiety Questionnaire

In this study, we use a quantitative method for the measurement of children's anxiety in which the study is done by S.A.S test or the same Zung children stress (Yavari, 2014). This questionnaire was written in 1970 by Zung, which is translated by Abolfazl Karami. This questionnaire was included in 20 four-choice questions and was prepared based on emotional-physical symptoms of anxiety that five symptoms of them are emotional, and fifteen symptoms are physical. 16 questions focused on positive symptoms and 4 questions on negative symptoms.

This questionnaire converted rank scale to spatial scale, and in other words, it was made a parametric test. Its scale indicates less score, less anxiety, and more score, more anxiety. By done researches, it was concluded that the validity of this questionnaire is at a significant statistical level and isolates anxiety disorders from the pressure of other disorders. One of the researches which indicate the correlation between Hamilton Anxiety Rating Scale (1959) and S.A.S Zung scale, showed that based on the data arising performing two scales on 500 using cases from Pearson correlation method between two tests of S.A.S and H.A.S which was 0.71. About the reliability of this test, we should say that in S.A.S statistical analysis using the coherence coefficient indicating a coefficient as 84; it shows very high reliability of this scale (Kutash et al. 1978). In general, we can say that the Zung S.A.S test has reliability and validity.

### 2.3. Data analysis

In this research, after data collection by Zung anxiety test, the median of T independent test and other descriptive and inferential statistics was considered, then with the help of SPSS, we obtained the results to recognize the significance for the relation between the anxiety of child and gender

## 3. Results

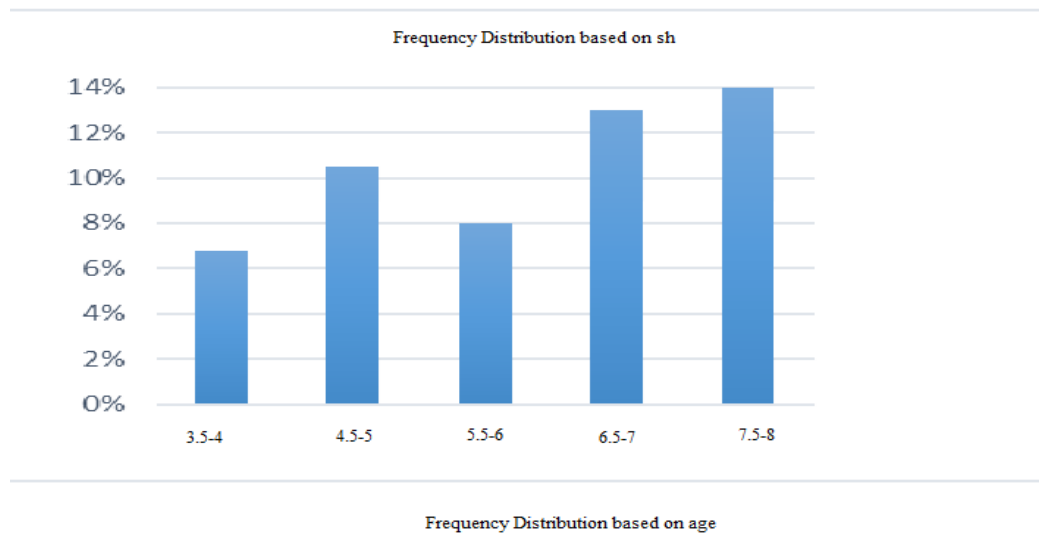
**Table 1**

*Distribution and frequency percentage of studying sample with age isolation*

	110	103	3.5-4
	223	214	4.5-5
	197	120	5.5-6
	134	121	6.5-7
	202	210	7.5-8
	100	100	50
			Total

In above table shows among 50 participants in the research, 6 people were in the age group 3.5-4 years and 10 people in 4.5-5 years age group and 7 people in the age group 5.5-6 years and 13 people in 6.5-7 years age group and 14 people in 7.5-8 years.

**Figure 1**  
*Frequency Distribution based on age*

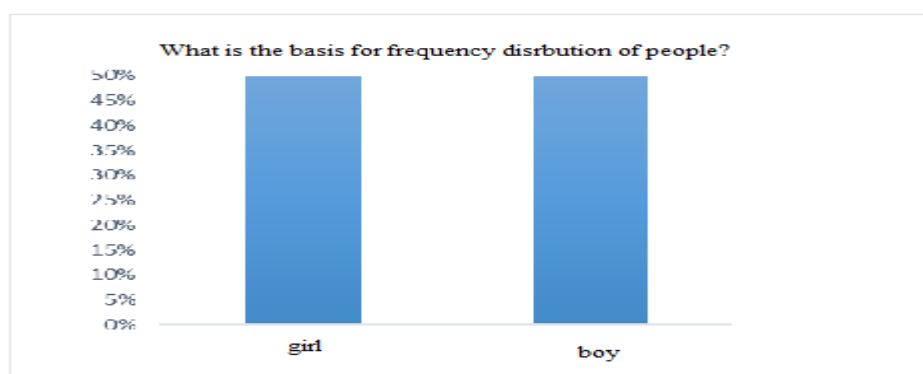


**Table 2**  
*Distribution and frequency percentage of children gender*

50%	100	25	girl
50%	100	25	boy
100	100	50	Total

As the table shows, 25 participants are girls, and 25 participants are boys.

**Figure 2**  
*Frequency distribution based on gender*



**Table 3**  
*Descriptive indices of research variable*

6	12	115%	<b>Anxiety</b> 64%
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Due to the above table, mean, standard deviation, median, and index of anxiety variables are present, respectively.

**Table 4**  
*The results of Zung test for surveying data normalization*

Mean difference	Significance level	DF	T	Mean deviation error	Standard Deviation	Mean
0.92	0.0001	21.92	-9.43	53%	115%	64%

As mentioned, one of the requirements of research is data normalization, which we investigated data normalization due to SPSS software that the amount of significance level of critical number in 0.50 level. In surveying data normalization in this table as you see, the significance level of the Zung test is higher than 0.50 for the scores of anxiety variables that show the scores with 95% confidence (sig=0.9) are normal.

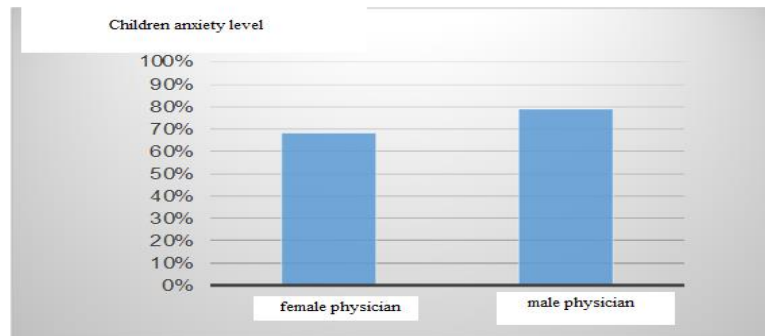
**Hypothesis:** there is a significant difference between children anxiety when they are treated by a male physician or a female physician in dentistry clinics

**Table 5**  
*Anxiety sample Zung test*

Statistical Index		
Sig	Anxiety	Variable
63%	227%	anxiety

**Figure 3**

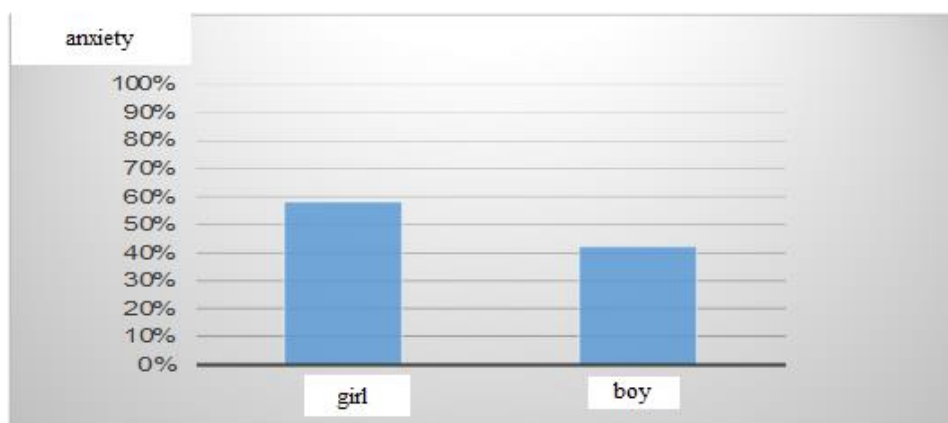
*Frequency distribution of children anxiety along with male and female physicians*



Frequency distribution of children anxiety along with male and female physicians

**Figure 4**

*Frequency distribution of anxiety and different gender*



Frequency distribution of anxiety and different gender

As you observe in the chart, the amount of anxiety for female children in dentistry clinics is very higher than the amount of anxiety of male children in dentistry clinics.

#### 4. Discussion

Due to results arising SPSS software, the amount of T-test is 43.9, which shows which the test is significant with the confidence 99%. Since the obtaining number is less than 0.10, the hypothesis of the research is accepted, and the zero hypothesis is rejected. Hence, the hypothesis that there is a significant difference between children anxiety when they are treated by a male physician or a female physician in dentistry clinics. Per the results of the research, children felt more comfortable or less anxious when they were treated by female physicians. When it comes to male physicians, children felt more anxious. This finding corroborates with the study of Asokan et al., (2016).

It is important to make sure children are less anxious when it comes to their visit to the dentist (Buldur & Armfield, 2018). Based on the results, it is also visible that when it comes to children, females

are more anxious than males. This finding supports the findings of previous studies. This includes the study of Kothari & Gurunathan, (2019) who purported that female child tend to have more anxiety in dentistry clinics.

## 5. Conclusion

As a result, it is observed that the children in dentistry clinics are of high anxiety. But since the obtained amount of anxiety in the clinics of female physicians is lower than male physicians, we conclude that the children besides female physicians have lower anxiety to male physicians.

The children of lower ages have higher anxiety, and among the other results of this research is that whatever the age of the child is increased, the amount of their anxiety will be lower. Also, in general, female children have higher anxiety for male children in dentistry clinics. Among the other obtaining results from the questionnaire, we can say that whatever the age of children will be more, the amount of their anxiety will be lower. Still, in lower ages, the anxiety of children is so high.

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