

Research Report

The difference of dental anxiety in children based on frequency of dental appointment

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ABSTRACT

Background: Problem of children's anxiety during dental procedures is a common phenomenon. This is called dental anxiety. The anxiety children patient need to be paid a special attention, because it will affect the success of dental treatment. **Purpose:** The purpose of this research was to find out the difference of dental anxiety degree in children aged 8 to 12 years old based on the frequency of dental visits in dental community health centre Bandung. **Methods:** The method of this research was analytical descriptive. The samples collected by using purposive sampling and the amount of sample was taken by consecutive sampling, and analysed by the U Mann-Whitney test. **Results:** The result of this research was from 76 correspondence there was 12 children feel anxious and 64 children did not feel anxious. Asymp.Sig is less than 0.05 in children having frequent and rarely frequency of dental appointment and Asymp. Sig is more than 0.05 in children having frequent and normal frequency of dental appointment also in children having normal and rarely frequency of dental appointment. **Conclusion:** In conclusion, the frequency of dental visits showed the difference of children's dental anxiety.

Key words: Dental anxiety degree, dental visit frequency, children

ABSTRAK

Latar belakang: Masalah kecemasan anak saat dilakukan perawatan gigi merupakan fenomena yang sering terjadi. **Kecemasan** pada saat dilakukan perawatan gigi disebut juga dental anxiety. Kecemasan pada penderita anak-anak perlu perhatian khusus karena akan memengaruhi keberhasilan perawatan gigi. **Tujuan:** Tujuan penelitian ini untuk mengetahui perbedaan derajat dental anxiety anak usia 8–12 tahun berdasarkan frekuensi kunjungan ke dokter gigi di Balai Pengobatan Gigi Kota Bandung. **Metode:** Jenis penelitian adalah deskriptif analitik. Naracoba diambil dengan metode purposive sampling dan jumlah naracoba ditentukan melalui consecutive sampling, kemudian diuji dengan U Mann-Whitney. **Hasil:** Hasil penelitian ini adalah dari 76 naracoba terdapat 12 anak yang merasa cemas dan 64 anak merasa tidak cemas. Asymp.Sig kurang dari 0,05 untuk perbandingan antara anak dengan frekuensi sering dan jarang berkunjung ke dokter gigi serta Asymp.Sig lebih dari 0,05 untuk perbandingan anak dengan frekuensi normal dan sering ke dokter gigi juga untuk anak dengan frekuensi normal dan jarang ke dokter gigi. **Kesimpulan:** Disimpulkan bahwa jumlah kunjungan ke dokter gigi memberikan perbedaan pada dental anxiety anak.

Kata kunci: Derajat dental anxiety, frekuensi kunjungan ke dokter gigi, anak-anak

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INTRODUCTION

Anxiety in facing dental treatment is a phenomenon frequently occurs in a community. The anxiety in children patient need to be paid a special attention, because it will affect the success of dental treatment and the coordination of children patient with the dentist. This anxiety can lead the patient to delay or even choose not to come to the dental appointment.¹

The cooperative behavior of the children is affected by the treatment in the first appointment. Negative reaction will arise if the children feel hurt in the treatment. The anxiety can come from the tooth extraction experience in their first dental appointment or the experience or anxiety of the mother or other family members.²

Dental care and treatment for children by the dentist should be conducted by considering children's feeling and their emotional conditions, therefore there will be trust and coordination of the children and the dentist in conducting the treatment. The appointment should be conducted in such a manner so that it will be an interesting experience for the children, particularly the first appointment as an introduction stage between the children and the dentist as well as the environment. If the children feel comfortable, they will have positive behavior in facing dental treatment procedures.³ The patients who have ever had dental treatments but still show high degree of dental anxiety are due to negative experience, and the patients having routine dental appointment since they are still young age will always come to have their dental treatment although they feel anxious.⁴

Doerr *et al.*,⁵ have conducted a survey on the frequency of dental appointment in a province. The survey was done on an adult population in United States of America. The frequency of dental appointments are classified into: frequent (more than twice a year), normal (twice a year), and rarely (less than once a year). This classification is then modified by the researcher, to make it appropriate to the children. The modification brings in the new classification: frequent (more than six times in a year), normal (three to six times in a year), and rarely (less than three times in a year). This modified result agrees with the ideas of the dentists, who suggest that children should have their tooth examined every three months.⁶

DMF-T index does not affect the degree of anxiety.⁷ Children with high DMF-T index need more dental treatment procedures than children with low DMF-T index. Children who have experienced many dental treatment and surgical procedures actually have the lowest anxiety degree. The same pattern was also found by Murray *et al.*,⁸ who conducted a longitudinal study on the phenomenon of dental anxiety and dental appointment. An analysis of children dental medical records for more than three years indicates that the frequency of dental appointment is an important factor. Children who do not have routine dental appointment and rarely have dental treatment procedures indicate the increase of anxiety. Children who comes to the

dentist either routinely or not and receive dental treatment along with surgical procedures indicate the highest degree of anxiety. The result of Brown and Murray research shows that children receiving dental treatment along with surgical procedure, but come to the dentist routinely will aid in decreasing the degree of dental anxiety.^{2,7,8}

The degree of anxiety in children, particularly those who are 8-12 years-old is relatively easy to observe. Eight to twelve years-old children are considered to have the ability in recognizing their environment, have high curiosity, and can quickly react with the given stimulus. The age period from 8 to 12 years-old is also called as analysis period, in which children have had an ability to recognize the difference and its parts, although the connection between the parts does not entirely appear. The fantasy has decreased and change into real observation.⁹

The measuring of dental anxiety can be performed in many ways, for example by Corah dental anxiety scale. Corah dental anxiety scale is a questionnaire consisting multiple choice questions about patients' subjective reaction to dental treatment.⁵

Bandung city has the facility of dental community health centre distributed in all over the region. One of the visions of Bandung in dental health program is: 50% of the visit to community health centre will have dental services in dental community health centre.¹⁰ The number of dental community health centre in this research are six dental community health centres, they are the dental community health centres having the greatest number of children visitor in the latest one year.

The purpose of the study was to examine the children dental anxiety degree based on the frequency of dental appointment in dental community health centres in Bandung city.

MATERIALS AND METHODS

This research is a descriptive analytical research, that was aimed to give description of the reality in the object studied objectively.¹⁰ The sampling method was purposive sampling, i.e. the method in taking samples based on individu or researcher consideration. The number of the samples were determined by consecutive sampling, in which the samples were selected based on the order of their visit. Population criteria in this research were: children 8-12 years-old, healthy both physically and mentally, boys and girls, was not using fixed or removable orthodontic appliances, was not under root canal treatment, and have ever had a dental appointment. Research procedures included answering Corah dental anxiety scale questionnaire, filling in general information sheet, and measuring the pulse of the patients. Corah dental anxiety scale used scoring method by calculate the anxiety rating. Children who had moderate anxiety have 9 until 12 point, children who had high anxiety have 13 until 14 point, and severe anxiety or phobia scored up to 15 point.¹⁰

The data was collected, processed, and analyzed, then was presented in the form of table of frequency and percentage distribution.

RESULTS

This research was conducted on 76 samples who meet the criteria. The distribution of number and percentage of the samples visiting dental community health centres in Bandung city based on the frequency of dental appointment and degree of dental anxiety (Table 1).

Table 1. Distribution of samples number and percentage based on the frequency of dental appointment and degree of dental anxiety

| Visiting frequency | N | | Anxious | | Not feel anxious | |
|--------------------|----|-------|---------|-------|------------------|-------|
| | F | % | f | % | f | % |
| Rare | 27 | 35.53 | 7 | 9.21 | 20 | 26.32 |
| Normal | 27 | 35.53 | 4 | 5.26 | 23 | 30.26 |
| Frequent | 22 | 28.95 | 1 | 1.32 | 21 | 27.63 |
| Total | 76 | 100 | 12 | 15.79 | 64 | 84.21 |

To examine the difference of dental anxiety degree in children having frequent and rarely frequency of dental appointment, Mann Whitney test is used and the statistical result showed that U value of Mann Whitney was 233.500 with Z value -1.933, and Asymp. Sig was less than 0.05. So Ho hypothesis is rejected, and it means that statistically there is a difference of dental anxiety degree in children having frequent and rarely frequency of dental appointment.

To examine the difference of dental anxiety degree in children having frequent and normal frequency of dental appointment, Mann Whitney test is used and the statistical result showed that U value of Mann Whitney is 266.500 with Z value -1.169 and Asymp. Sig is more than 0.05. So Ho hypothesis is accepted, and it means that statistically there is no difference of dental anxiety degree in children having frequent and normal frequency of dental appointment.

To examine the difference of dental anxiety degree in children having normal and rarely frequency of dental appointment, Mann Whitney test is used and the statistical result showed that U value of Mann Whitney is 324.000 with Z value -1.004 and Asymp. Sig is more than 0.05. So Ho hypothesis is accepted, and it means that statistically there is no difference of dental anxiety degree in children having normal and rarely frequency of dental appointment. The distributions of samples number and percentage on children's feeling when going to see the dentist, waiting in the dentist waiting room, sitting on the dental chair and waiting for the treatment and when seeing dentist holding

dental instrument and taking care of children's teeth can be seen in table 2–5.

Table 2. Distribution of samples number and percentage based on children's feeling when going to see the dentist (Question 1 Corah DAS)

| Answer | Children's feeling | F (n) | Percentage (%) |
|--------|--------------------|-------|----------------|
| A | Happy | 3 | 26.32 |
| B | Not worry | 18 | 28.95 |
| C | Worry | 13 | 17.11 |
| D | Nervous | 22 | 23.68 |
| E | Very nervous | 20 | 3.95 |
| Total | | 76 | 100 |

Table 3. Distribution of samples number and percentage based on children's feeling when waiting in the dentist waiting room (Question 2 Corah DAS)

| Answer | Children's feeling | F (n) | Percentage (%) |
|--------|--------------------|-------|----------------|
| A | Happy | 54 | 71.05 |
| B | Not worry | 12 | 15.79 |
| C | Worry | 7 | 9.21 |
| D | Nervous | 3 | 3.95 |
| E | Very nervous | 0 | 0 |
| Total | | 76 | 100 |

Table 4. Distribution of samples number and percentage based on children's feeling when sitting on the dental chair and waiting for the treatment (Question 3 Corah DAS)

| Answer | Children's feeling | F (n) | Percentage (%) |
|--------|--------------------|-------|----------------|
| A | Happy | 36 | 47.37 |
| B | Not worry | 13 | 17.11 |
| C | Worry | 12 | 15.79 |
| D | Nervous | 13 | 17.11 |
| E | Very nervous | 2 | 2.63 |
| Total | | 76 | 100 |

Table 5. Distribution of samples number and percentage based on children's feeling when dentist holding dental instruments and taking care of children's teeth (Question 4 Corah DAS)

| Answer | Children's feeling | F (n) | Percentage (%) |
|--------|--------------------|-------|----------------|
| A | Happy | 38 | 50.00 |
| B | Not Worry | 14 | 18.42 |
| C | Worry | 7 | 9.21 |
| D | Nervous | 9 | 11.84 |
| E | Very nervous | 8 | 10.53 |
| Total | | 76 | 100 |

DISCUSSION

The result of research on dental anxiety degree based on the frequency of dental appointment in table 1 showed a significant result. Samples who feel anxious consists of 12 children (13.16%). The highest percentage were 7 children (9.21%) stated that they rarely have dental appointment, that was less than 3 times in the last one year. However, this rate is not comparable with the number of samples who do not feel anxious, either those who have frequent, normal, or rarely frequency of dental appointment. Total samples who do not feel anxiety consists of 64 children (86.84%). The highest percentage were 22 children (28.95%) stated that they have dental appointment 3–6 times in the last year or have normal frequency of dental appointment, and 22 children (28.95%) stated that they have more than 6 times dental appointment in the last year, or can be classified into 'frequent' frequency. This indicates that the frequency of dental appointment affects children's dental anxiety degree in facing dental treatment. Children frequently come to the dentist have lower dental anxiety degree compared with those who rarely come to the dentist. This result agrees with the opinion of Jay,³ who suggest that children are advisable to check up their dental health three times a year, in order to grow their selfassurance and to build comfort in undergoing dental treatment.

The result of this research showed that 64 students (86.84%) or almost all the children visiting dental community health centres in Bandung did not indicate high dental anxiety degree (Table 1). It is supported by their answer to the questions about their feeling when they were going to have dental appointment (Table 2). Meanwhile 22 students (28.95%) said that they did not feel anxious and 20 students (26.32%) said that seeing the dentist is an interesting experience. Based on interview result to the children who do not feel anxious in their dental appointment, the reason why they did not feel anxious were because they feel comfortable in the examination and because they often have dental examination in Dental Health Unit in their school.

The condition of waiting room also affects the anxiety degree. Children answers to the question about the feeling when they are in the waiting room (Table 3) is: 54 children (71.05%) or most of them feel comfortable. Based on the interview, they feel comfortable because they can play and watch the television in the waiting room. The other reason is because they are accompanied by their parents.

Children who feel anxious can give unpleasant behavior in dental chair. They will be uncooperative and can not stay quietly in the dental chair.¹¹ The result of the research showed that most of the children did not feel anxious in dental treatment. This result is supported by samples' answer to the question about their feeling when sitting in the dental chair and undergoing their dental treatment (Table 4).

The highest percentage, 36 children (47%) or almost a half of the samples, answer that they did not feel anxious. Based on the interview result, they feel comfortable when sitting in the dental chair if the parents are standing near the dental chair, waiting for them undergoing dental treatment. This result agrees with the opinion of Peretz *et al.*,¹² and Folayan *et al.*,¹³ that there was a positive correlation exists between parental and children's dental anxiety. The comfort is also as a result of the dentist who is always friendly and kind.

Children reaction when looking at dental instruments can affect dental anxiety degree. In this research, children respond can be found out from their answer to the question about their feeling when seeing the dentist take the instruments for dental care or treatment (Table 5). 38 children (50%), or a half of the children visiting dental community health centres in Bandung city, said that they do not feel anxious looking at the instruments. Based on interview result, they feel comfort because they have often seen the instruments, and they frequently visit the dentist before. Meanwhile 9 children (11.84%) said that they are anxious, and 8 children (10.53%) said that they are very anxious when looking at the instruments, because they rarely come to the dentist to have dental appointment, or because they are afraid that the instrument will hurt them.

Twelve children (15.79%), or about 1/6 of total samples, show high dental anxiety degree when undergoing dental treatment in dental community health centres in Bandung (Table 1). Based on interview result, the anxiety of children in their dental treatment can be caused by various factors, such as trauma because they have seen their sister or brother feel pain or hurt in the dental treatment, feeling afraid of the injection, and thinking that all of dental action is painful. This result agrees with the opinion of Townend,¹⁴ that children's fear was more strongly associated with subjective experience of pain and trauma than with objective dental pathology.

Eight to twelve years-old children are in elementary school, and this period of age is the most effective age to get knowledge on dental health and to have dental treatment. The anxiety in children comes from perception process of the children on dental treatment based on the experience, story from someone else, and based on what the read. Anxiety often cause children show negative behavior towards dental treatment. Dental anxiety is identical to their fear towards dental treatment. The anxiety in children is extremely affected by their experiences in previous dental treatment, their respond to the pain, and their knowledge on dental health. Children's behavior is affected by their education and experiences.^{15,16}

From the research, it can be concluded that the frequency of dental appointment affect children's dental anxiety, it means that children should go to the dentist as soon as possible to check their oral health conditions and children should see the dentist at least once in three months to reduce dental anxiety when visiting the dentist.

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