



Level of Anxiety Regarding Tooth Extraction Among Children with Mental Disability

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ABSTRACT

Anxiety is a natural trait that occurs in every person which can occur during dental nursing activities. This can also be experienced by children with mental disability who will have their teeth extracted. This study aims to determine the level of anxiety regarding tooth extraction among children with mental disability at SLB Al-Gaffar Guchany by gender and age. This was a descriptive study using quantitative data analysis with a total sampling technique which obtained 20 samples. Data were analyzed using the Chi-square test to determine whether there was a relationship between one variable and another. The results from the statistical test showed that that gender and age had no significant relationship with the level of anxiety regarding tooth extraction among children with mental disability with a p value of 0.848 and 0.456 > 0.05, respectively. It can be concluded that there was no difference in the level of anxiety regarding tooth extraction among children with mental disability at SLB Al-Gafar Guchany by gender and age.

INTRODUCTION

Anxiety is a response to certain threatening situations and is a normal thing that happens accompanied by development, change, new experiences, and in finding self-identity and life. According to Pramanto, Munayang, & Hutagalung, (2017), anxiety is a condition that arises from within a person naturally. Children's anxiety about dental care can lead to an uncooperative attitude that will hinder the dental treatment process which can further decrease the efficiency and effectiveness of dental health services (Rukmanawati, Fahmi & Sulistyani, 2019). Anxiety comes from the word anxious which means worry, or fear. Anxiety can also be defined as worry or tension that comes from an unknown source. Anxiety also often occurs and is experienced by someone who will carry out health care, including dental health care. Anxiety experienced by patients can be detrimental to dental and oral health which can affect the status of dental and oral health. Dental and oral health problems can also occur in someone with a disability.

Disabilities refer to people who are mentally disabled or physically disabled or a combination of both. Persons with disabilities commonly have an imbalance between their biological condition and social environment, so the presence of a companion has an important role to help balance food intake and proper nutrition.

WHO defines children with mental disability as children who have two essential components, namely intellectual functioning which is significantly below average because of their inability to adapt to the norms that exist in society, accompanied by an inability to adapt behavior that arises during development (Napitupulu, et al., 2022).

According to statistical data (Coordinating Ministry for Human Development and Culture (Kementerian Koordinator Bidang Pembangunan Manusia Dan Kebudayaan Republik Indonesia, 2022), the proportion of disabilities among children aged 5-19 years was 3.3% or around 2,197,833 people. According to WHO (2021) out of a total of 7 billion world population in 2021, 15 percent of them were people with disabilities and 80 percent lived in developing countries (Aminpplp, 2021). Another problem related to the education of persons with disabilities is relatively a low access to education. Based on the data, it was found that 30.7% of people with disabilities did not complete secondary education and only 17.6% completed tertiary education.

Another problem is regarding the world of education. According to Statistics Indonesia (BPS) data, access to education for people with disabilities was still relatively low. BPS stated that there were 30.7% of people with disabilities who did not finish education to secondary education level. Meanwhile, only 17.6% of the total number of people with disabilities had successfully graduated from tertiary education institutions. According to Rosmawati, & Surayah, (2018), the number of children with disabilities in Indonesia was around 7-10% of the total number of children and there was a relationship between the OHI-S index and the DMF-T index (Rosmawati, & Surayah, 2018). Based on the explanation above, it can be concluded that, dental health among children with disabilities is something that must be considered. In maintaining dental and oral health, it is necessary to know one kind of dental and oral health care, namely tooth extraction.

Tooth extraction can make children feel anxious, causing them to delay dental treatment (Pramanto, Munayang, & Hutagalung, 2017). A study conducted by Octiara, et al., (2018) revealed that tooth extraction treatment was second order after single-surface restoration treatment with a distribution of the level of need for tooth extraction treatment of 1.43 teeth for each child with special needs. Most cases were persistence of primary teeth because most children with special needs had never visited the dentist (Octiara, et al., 2018).

Based on the Dental Fear and Anxiety (DFA) scale, a significant increase in the prevalence of dental fear and anxiety is due to the development of new carious lesions, experience of toothache, and tooth extraction occurs in children with special needs aged seven and nine years. Thus the prevention of painful and traumatic experiences from a psychological perspective must be carried out in dental care for children with special needs (Dahlander, et al., 2019). This study aims to determine the level of anxiety regarding tooth

extraction among children with mental disability at SLB Al-Gaffar Guchany by gender and age.

METHOD

This study was conducted at SLB Al-Gaffar Guchany with a total of 20 children with mental disability as the study subjects, who were selected using total sampling technique. This was a study with descriptive quantitative design. Assessment of the results on the level of anxiety regarding tooth extraction was performed using a questionnaire sheet consisted of 15 questions with multilevel answers. Data were analyzed through descriptive statistical analysis using the Chi-Square statistical test. Data analysis aims to determine the relationship between gender and age variables with the child's anxiety variable.

RESULTS AND DISCUSSION

Univariate analysis in this study aims to determine the frequency distribution of gender and age characteristics of the study subjects. The results of univariate analysis in this study can be seen in the following table.

Table 1. Frequency Distribution of Characteristics of Respondents.

| Variable | Frequency | Percentage |
|-------------|-----------|------------|
| Gender | | |
| Male | 13 | 65 |
| Female | 7 | 35 |
| Total | 20 | 100 |
| Age | | |
| 8-10 years | 8 | 40 |
| 11-14 years | 12 | 60 |
| Total | 20 | 100 |

Based on the table 1 above, it can be seen that 65% of children with mental disability were male and the rest 35% were female. Furthermore, 40% of children with mental disability aged 8-10 years and 60% of children aged 11-14 years. Further study findings on the level of anxiety regarding tooth extraction are presented in the following table:

Table 2. Frequency Distribution of Anxiety Levels regarding Tooth Extraction.

| Anxiety Level | Frequency | Percentage |
|---------------|-----------|------------|
| Anxious | 7 | 35 |
| Not Anxious | 13 | 65 |
| Total | 20 | 100 |

Based on the table 2 above, it can be seen that there were 35% of children with mental disability who experienced anxiety and 65% of them did not experience anxiety. A number of studies have been conducted to note that the prevalence of anxiety in all age groups worldwide was 3-43% (Viswanath, Kumar, & Prabhuji, 2014), where the prevalence of anxiety in children aged 4-18 years for dental care reached 6-20%. In addition, there was a decrease in parental satisfaction with dental care which led to a decrease in perceived dentist competency (Gunawan, 2018). The study findings regarding the level of anxiety among children with mental disability by gender are presented in the following table:

Table 3. Frequency Distribution of Anxiety Levels by Gender.

| Gender | Anxiety Level | | | | | | p-value |
|--------|---------------|-----|-------------|-----|-----------|------|---------|
| | Anxious | | Not Anxious | | Frequency | | |
| | n | % | n | % | n | % | |
| Male | 5 | 25% | 8 | 40% | 13 | 65% | 0.848 |
| Female | 2 | 10% | 5 | 25% | 7 | 35% | |
| Total | 7 | 35% | 13 | 65% | 20 | 100% | |

Based on the results of statistical test data using Chi-square it was obtained a p value of $0.848 > 0.05$, which indicated that gender had no significant relationship with tooth extraction among children with mental disability. Such finding is not in line with a study conducted by Sanger, Pangemanan, & Leman, (2017) which applied the Children Fear Survey Schedule-Dental Subscale (CFSS-DS) assessment. It was found that female adolescents had a higher level anxiety than male adolescents, especially in the age range of 6-8 years.

The study findings regarding the level of anxiety among children with mental disability by age are presented in the following table:

Table 3. Frequency Distribution of Anxiety Levels by Age.

| Age | Anxiety Level | | | | Frequency | | p-value |
|-------------|---------------|-----|-------------|-----|-----------|------|---------|
| | Anxious | | Not Anxious | | | | |
| | n | % | n | % | n | % | |
| 8-10 years | 3 | 15% | 5 | 25% | 8 | 40% | 0.456 |
| 11-14 years | 4 | 20% | 8 | 40% | 12 | 60% | |
| Total | 7 | 35% | 13 | 65% | 20 | 100% | |

Based on the table 3 above, it can be seen that among subjects aged 8-10 years and 11-14, a statistical test using chi-square obtained a p value of $0.456 > 0.05$, which meant that there was no significant relationship between age and the level of anxiety regarding tooth extraction. Subjects aged 11-14 years did not feel anxious because of their low level of understanding and knowledge of dental care. According to a study conducted by Suprabha (2011), it was found children aged 7-14 years had the ability to adjust to dental care as they got older.

The cause of anxiety for some children is based on the lack of communication, approach and counseling for children with mental disability so that they have the understanding that having their teeth checked and extracted is a very scary thing. This can be due to parents who were not aware of providing an understanding of the importance of maintaining healthy teeth and lack of counseling which causes children with mental disability to be unfamiliar with and afraid of healthcare workers. A study conducted by (Dwiputra, Damayanti, & Sasmita, 2021) found that patients with autism spectrum disorders experienced deficits in terms of social communication and behavior and difficult to adapt to a new environment which could be factors that caused anxiety among children with autism spectrum disorders. Furthermore, repeated exposure which is painful and uncomfortable during dental treatment can also result in trauma and rejection of treatment.

One effort that can be done in reducing anxiety level is through communication. As a healthcare worker, the success in solving several problems with pediatric patients is by having good communication so as to foster the child's self-confidence, making an approach by introducing, telling and allowing the child to touch some of the equipment to be used in the procedure (Sitorus, 2019). Children with special needs are able to communicate well, although they are a little slow in capturing the message being conveyed. In addition, the results of the study also showed that children with special needs were able to interact socially with the environment, but often experienced a lack of focus (Ainnayyah, 2019)

Anxiety during tooth extraction in children can occur due to past trauma during dental treatment and often also occurs due to the use of dental tools such as syringes, elevators (bein) and pliers (Fernanda, 2019). Meanwhile, it was found that when the operator is preparing tooth extraction tools to be used for the procedure, female children tended to feel more anxious than male children (Rehatta, Kandou, & Gunawan, 2014). In the treatment of tooth extraction among children with Autistic Spectrum Disorders (ASD), physical restraint can be used to stabilize the child if it is no longer possible to take a communication, social interaction and language approach, but good preparation and cooperation from parents are still needed (Octavia, 2021). According to the American Academy of Pediatric Dentistry (AAPD), there should be certain indications to use use of physical restraint with (Weaver, 2010), namely : 1) Patients who require immediate diagnosis and/or limited treatment and are unable to cooperate due to lack of maturity or mental or physical disabilities; 2) The safety of patients, staff, dentists,

or parents will be at risk without restraint; 3) Anesthetized patients who require limited stabilization to help reduce unwanted movement.

A study conducted by (Han et al., 2016) revealed that behavior management in dental care for children with intellectual disabilities was very necessary because they often showed a lack of cooperation, especially children with severe cases of intellectual disability. In cases of children with severe intellectual disabilities, general anesthesia is usually required during dental work. In addition, dental care for children with mental disability who are accompanied by parents who also have mental disability raises certain difficulties regarding evaluation of the patient's preoperative condition and consent to treatment with general anesthesia. There are also difficulties in responding to post-treatment emergencies. Therefore, dental treatment for children with mental disability with general anesthesia must be accompanied by hospitalization. The results of the study showed that parents of children with mental disability with general anesthesia accompanied by hospitalization were more likely to choose general anesthesia during future dental treatment.

Efforts to maintain healthy teeth and mouth in children with mental disability can be performed by increasing the ability to brush their teeth. Previous study conducted by (Syahril, 2022) reported that task analysis could be applied for subjects of 11-year-old autistic students. Such task was performed by teaching the steps for brushing their teeth. However, the focus in teaching student self-development was only applied for steps that they had not been able to master. The results of the study found that self-development skills in brushing teeth among autistic students as the study subjects increased through the implementation of task analysis during the learning process.

CONCLUSION

It was found that gender and age had no significant relationship with the level of anxiety regarding tooth extraction among children with mental disability. It is recommended a good communication approach by parents and education on the importance of maintaining dental and oral health through counseling by teachers and healthcare workers.

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