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The Power of Parental Support: Unveiling the Impact on Anxiety during Tooth Extraction among Maryam Elementary School Students in Surabaya Indonesia

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ABSTRACT Anxiety regarding teeth extraction among Maryam Surabaya Elementary School students is still quite high, at 80%, according to the collection of data. Parental motivation is one of several elements that might lessen student worry. As a result, the purpose of this study was to examine the influence of parental motivation on anxiety in tooth extraction among Maryam Surabaya Elementary School pupils. This study included cross-sectional analytic methodologies, including simple random sampling and purposive sampling. The research sample consisted of 76 Maryam Surabaya Elementary School students who had got tooth extraction therapy in health services. This study was carried out at Maryam Surabaya Elementary School in January 2023. The spearman rank correlation test was used in data processing and analysis procedures. The study's findings were based on the spearman rank correlation test, which yielded results for parental motivation (mean ± SD 37.95 ± 5.08) and student anxiety (mean ± SD 20.87 ± 10.20). ρ (0.032) < 0.05 was achieved, indicating that H0 is rejected. In conclusion, most of repondents experienced medium anxiety and it can be inferred that parental motivation has an influence on anxiety in tooth extraction of Maryam Surabaya Elementary School students, especially in motivating children some parents agree to give punishment if patient do not want to do tooth extraction and forced children to do the tooth extraction.

INDEX TERMS Anxiety, Motivation, Tooth Extraction

I. INTRODUCTION

Oral health refers to the absence of disorders such as cavities, periodontal (gum) disease, tooth loss, oral cancer, and others that can impair biting, chewing, smiling, and speaking. Cavities affect the majority of youngsters during their childhood. Cavity discomfort and fear do not cause a kid to seek preventative and curative therapy at a young age. [1] . Oral health examinations at the dentist can cause mental anguish, and anxiety is typical. Anxiety is described as the dread of something bad happening, as well as worry and anxiety. Dental anxiety is defined as fear of dental care. [2], [3].

Dental anxiety is a common problem that affects all ages and begins to develop from childhood to adolescence and adulthood. The cause of anxiety in school-age children can be influenced by various factors such as the environment of parents who are also afraid of dental treatment, previous dental experiences, one's personality, generalized fears, age and gender are also factors of anxiety [4]–[6].

Children experience anxiety when it comes to dental treatment. Dental anxiety usually occurs in the dental treatment room. Anxiety in tooth extraction treatment is often caused by the use of sharp objects such as needles, elevators and forceps that are used gradually into the oral cavity. Serious problems can cause feelings of anxiety that make patients unable to cooperate properly, hindering the performance of dental medical personnel in performing tooth extraction. Managing children's anxiety levels is more

complicated than adults. The dentist's appearance, clinic environment, and equipment make children feel more anxious [1].

Research on the description of children's anxiety levels during tooth extraction treatment conducted by Gazal (2015) states that most children experience anxiety during tooth extraction treatment [7]. However, the dental anxiety will decreases as children get older [8]. Research conducted by Maulidi et al. (2022), that the prevalence of dental anxiety in students at SDN 15 North Pontianak was 64.6% in the severe category, so this can have a negative impact on oral health and become a challenge for dentists in conducting treatment.

Based on the results of a survey conducted by researchers on December 26, 2022, by filling out a questionnaire about anxiety in 10 fourth grade students of Maryam Surabaya Elementary School, Gubeng District, including 2 children experiencing low anxiety as much as 20%, 3 children experiencing moderate anxiety 30% and 5 children experiencing high anxiety as much as 50%. For this reason, it is necessary to conduct research to analyze the effect of parental motivation on the level of anxiety towards tooth extraction in Maryam Surabaya Elementary School students, Gubeng sub-district. Anxiety during dental treatment, especially tooth extraction treatment, requires further research in order to minimize the impact of dental anomalies that occur at an early age.

The anxiety referred to in this case is a state of fear of dental treatment. That children with anxiety will have a bad impact by complicating the process of action that will be given by health workers because it will cause obstacles so that it is concluded that the patient will be uncooperative. Anxiety that arises in pediatric patients is one of the things that must be considered because it will greatly affect the impact that occurs, namely the decline in oral health and oral health caused by these pediatric patients do not want to do dental and oral care in the future [9]. Children who had no prior dental experience were more anxious than those with prior dental anxiety. Children with positive dental experiences tend to be cooperative with the dentist. Anxiety is higher in children visiting irregularly and receiving treatment procedures over a certain time [10], [11]. Research conducted by Aravena et al [12], The use of music significantly decreased clinical anxiety levels, and the frequency of 432 Hz was effective in decreasing salivary cortisol levels before tooth extraction. Research conducted by gazal et al [13], dental fear and anxiety associated with dental extractions under local anesthesia can be reduced by showing a tooth extraction video to the patients preoperatively. Research conducted by Greeshma et al [14], children were most relaxed in virtual reality group, followed by audio group and were least relaxed in tell show do group during dental visits. Hence virtual reality distraction can be considered as a useful technique for behavior management of pediatric patients during a conventional dental treatment. For this reason, a study was conducted to analyze the power of parental support for anxiety during tooth extraction in children's at SDI Maryam Surabaya.

Oral health care, especially in children, is very useful for the dental health of children who are still in the stage of growth and development. Therefore, parents must have sufficient knowledge about health, because knowledge will affect behavior as a long-term result of health education. If parents have sufficient knowledge, it can motivate and change children's behavior to be more cooperative in performing dental care and can reduce the number of anxiety in children [15]. Based on the results of the initial data collection conducted by researchers, some children experience high anxiety and it can be concluded that the research problem is the high anxiety in the act of tooth extraction of Maryam Surabaya Elementary School students. Based on the above background, the researcher is interested in conducting research on the influence of parent's motivation on anxiety in tooth extraction of students at elementary school Maryam Surabaya

II. METHODOLOGY

This research was declared ethically feasible by the Health Research Ethics Commission at the Surabaya Ministry of Health Polytechnic on January 25 2023 with the number EA/1377/KEPK-Poltekkes_Sby/V/2023. This study uses analytic research, with a cross sectional design by collecting data on the independent variable and the dependent variable at the same time. The research was conducted at Maryam Islamic Elementary School, Jl. Manyar Sambongan No. 119, Kertajaya, Kec. Gubeng, Surabaya City, East Java 60282 which was felt in October 2022 to January 2023. Population of Maryam Surabaya Elementary School students with a total of 796 students. The sample in this study was part of the population of Maryam Surabaya Elementary School students. The sample was taken by simple random sampling because the population in this study was homogeneous. A sampling method in which each member of the population is given the same opportunity (opportunity) to be selected as a sample. Based on the Lameshow formula, the sample used was 26 Maryam Surabaya Elementary School students in accordance with the predetermined criteria of 76 people, the researcher took a target sample based on inclusion criteria such as Maryam Surabaya Elementary School students, have had tooth extraction in health services, and are willing to become research respondents and have filled out informed consent. And exclusion provisions such as never doing tooth extraction in health services and not willing to become research respondents and not filling out informed consent. The sample size taken in each class was determined by purposive sampling, namely class 1 as many as 30 students who have had tooth extraction in health services, so 6 respondents were obtained, class 2 as many as 52 students who have had tooth extraction in health services, so 10 respondents were obtained, class 3 as many as 52 students who have had tooth extraction in health services, then obtained 10 respondents, class 4 as many as 78 students who have had tooth extraction in health services, then obtained 15 respondents, class 5 as many as 80 students who have had tooth extraction in health services, then obtained 17 respondents, and class 6 as many as 87 students who have

had tooth extraction in health services, then obtained 18 respondents.

The data collected were data on parental motivation about tooth extraction of students at Maryam Surabaya Elementary School using the questionnaire method and data on anxiety of Maryam Surabaya Elementary School students on tooth extraction using the questionnaire method. The research instrument used in collecting data on parental motivation about student tooth extraction at Maryam Surabaya Elementary School was a questionnaire. The results of measuring parental motivation for tooth extraction were calculated from the total assessment score of each respondent and then analyzed and categorized using the formula. Calculation of researcher categorization based on categorization according to Azwar [16]. Based on the above calculations, the categories for parental motivation about tooth extraction can be seen in TABLE 1.

TABLE 1
Categories of Parental Motivation About Tooth Extraction

Category	Formula
Low	$X < 32,87$
Medium	$32,87 \leq X < 43,03$
High	$X \geq 43,03$

Source: [16]

X is score for each respondent, μ is *Mean* (20,87), and σ is standard deviation (10,208).

Based on the above calculations, the category for anxiety on tooth extraction can be seen in table 4.4.

TABLE 2
Anxiety Category onTooth Extraction

Category	Formula
Low	$X < 10,662$
Medium	$10,662 \leq X < 31,078$
High	$X \geq 31,078$

Sumber: [16]

The data analysis technique in this study used a non-parametric correlation spearman rank statistical test analysis. With a confidence level of α (0.05).

III. RESULT

Maryam Surabaya Elementary School is located at Jl. Manyar Sambongan No. 119, Kertajaya, Gubeng, Surabaya City, East Java 60282. Maryam Surabaya Elementary School is one of the education services with elementary level. The activities of Maryam Surabaya Elementary School are under the guidance of the Ministry and Culture. The location of Maryam Surabaya Elementary School is very strategic, close to health services and residential areas. The teaching staff at Maryam Surabaya Elementary School consists of 33 people, namely one principal and 32 teachers. In Maryam Surabaya Elementary School consists of 28 classes.

This research was conducted in January 2023 on first to sixth grade respondents by giving a questionnaire sheet. The study was conducted to determine the effect of parental motivation on anxiety in tooth extraction of Maryam Surabaya elementary school students. This study was conducted on 76 respondents. The subjects in the study totaled 76 respondents consisting of men (51.3%) and women (48.7%).

TABLE 3
Frequency Distribution of Respondent Characteristics

Gender	Frequency	%
1. Male	39	51,3
2. Female	37	48,7

TABLE 4
Frequency Distribution of Parents' Motivation Answers of Maryam Elementary School Students Surabaya

No	Statement	Respondent's Answer									
		STS		TS		KS		S		SS	
		F	%	F	%	F	%	F	%	F	%
1	Giving praise when performing tooth extraction	3	3,9	1	1,3	1	1,3	31	40,8	40	52,6
2	Giving gifts to encourage tooth extraction	4	5,3	12	15,8	14	18,4	32	42,1	14	18,4
3	Give understanding so that they want to do tooth extraction	2	2,6	1	1,3	2	2,6	41	53,9	30	39,5
4	Getting a dental checkup every 6 months even if no tooth problem	0	0	3	3,9	17	22,4	34	44,7	22	28,9
5	Take them to a dental center or health center if they complain about their teeth	1	1,3	1	1,3	4	5,3	33	43,4	37	48,7
6	Give punishment if patient do not want to do tooth extraction	19	25	24	31,6	23	30,3	8	10,5	2	2,6

7	Forced to do the tooth extraction	17	22,4	24	31,6	18	23,7	10	13,2	7	9,2
8	Accompanying during the tooth extraction	1	1,3	1	1,3	4	5,3	39	51,3	31	40,8
9	Reassure to always think positively about tooth extraction	0	0	1	1,3	7	9,2	38	50	30	39,5
10	Provide education on tooth extraction	0	0	2	2,6	12	15,8	27	35,5	35	46,1

Based on Table 5.2, it can be seen that some parents of Maryam Surabaya elementary school students disagree about giving punishment to children when they do not want to do tooth removal, and do not agree about forcing children to do teeth removal.

TABLE 5
Frequency Distribution of Motivation of Parents of Maryam Surabaya Elementary School Students

No.	Motivation	Frequency	%
1.	Low Motivation	18	23,6
2.	Medium Motivation	30	39,4
3.	High Motivation	28	37
	Total	76	100

Based on Table 5.3 it is found that the majority of respondents who have moderate motivation are (39,4%).

TABLE 6
Frequency Distribution of Emergency Question Answers of Maryam Elementary School Students in Surabaya

No	Statement	Respondent's Answer									
		TC		SC		C		CS		SCS	
		F	%	F	%	F	%	F	%	F	%
1	Feelings when the next day go to the dental clinic for tooth removal	41	53,9	19	25	7	9,2	5	6,6	4	5,3
2	Feeling when the teeth shake again and have to remove teeth	30	39,5	22	28,9	9	11,8	13	17,1	2	2,6
3	Feelings when looking back to the dental health officer wearing APD during the tooth removal action	41	53,9	13	17,1	8	10,5	11	14,5	3	3,9
4	The feeling when the teeth are re-checked with instruments that are sharp and shaped.	23	30,3	17	22,4	12	15,8	12	15,8	12	15,8
5	Feelings when the tooth is re-anesthetized during tooth extraction	36	47,4	21	27,6	7	9,2	4	5,3	8	10,5
6	The feeling when you feel anxious and have to have another tooth extracted one day	37	48,7	25	32,9	7	9,2	4	5,3	3	10,5
7	Feelings when parents insist on going back to the dental clinic for extractions because of overlapping teeth	37	48,7	11	14,5	8	10,5	8	10,5	12	15,8

8	Feelings after having a tooth extracted and then a friend telling you that tooth extraction is painful	47	61,8	14	18,4	12	15,8	1	1,3	2	2,6
9	Feelings when sitting back in the waiting room of the dental clinic	40	52,6	16	21,1	4	5,3	7	9,2	9	11,8
10	The feeling of being back in the dental chair for extractions	33	43,4	16	21,1	6	7,9	6	7,9	15	19,7

Based on table 5.4, it can be seen that some students of SD Maryam Surabaya stated that they were a little anxious when, on another day in the future, they had to pull out another tooth, and a little anxious about giving anesthetic at the time of tooth extraction again.

TABLE 7
Anxiety Frequency

No.	Anxiety	Frequency	%
1.	Low Anxiety	21	27,6
2.	Medium Anxiety	30	39,4
3.	High Anxiety	25	33
	Total	76	100

Based on table 5.5, it is known that most respondents experienced moderate anxiety (39.4%).

5.2.3 Data Analysis of the Effect of Parental Motivation on Anxiety in Tooth Extraction Measures of Maryam Surabaya Elementary School Students. Data normality test analysis to determine which data analysis will be used between parametric or non-parametric statistic

TABEL 8
Normality Test Results

	Kolmogorov-Smirnov			Shapiro-wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Motivation	0,147	76	0,000	0,954	76	0,007
Anxiety	0,163	76	0,000	0,861	76	0,000

In Table 5.6 it is known that the results of the normality test analysis on both variables are not normally distributed, so it can be concluded that the test analysis of the influence of the two variables uses non-parametric statistical tests.

Spearman rank correlation test analysis to determine the effect of parental motivation on anxiety in tooth extraction of Maryam Surabaya elementary school students.

TABLE 9
The Effect of Parental Motivation on Anxiety in Tooth Extraction Measures of Maryam Surabaya Elementary School Students

Variable	Minimum	Maximum	Mean ± SD	*ρ-value*
Motivation	30	50	37,95 ± 5,08	0,032
Anxiety	10	44	20,87 ± 10,20	

According to Table 5.6, the ρ-value shows 0.032, means that the ρ-value is under 0.05, so, it can be concluded that there is an influence between parental motivation on anxiety during tooth extraction.

IV. DISSCUSION

The results of the analysis conducted on respondents for the variable parental motivation regarding tooth extraction at Maryam Surabaya Elementary School showed that most respondents were in the moderate motivation category. This

can be seen from the results of the questionnaire answers that, respondents expressed less agreement regarding giving punishment to children when they did not want to pull teeth again, and disagreed regarding forcing children to pull teeth again.

These results are supported by the opinion that parents have behavioral control as an effort to regulate and manage children's behavior [17]. A clear form of control is in the form of punishment as a form of discipline for children to behave positively, especially during dental care. Parents have a very important role in maintaining children's dental health, for example giving examples of dental care, motivating dental care, supervising dental care, and taking children to the dentist [18], [19]. According to Joaquin (2018) family support is influencing someone's health. Family wellbeing may be influenced in all its measurements, including by family support and conditions [20]. Research Castilho (2013) proves that the role of parents is effective on children's oral hygiene skills. Parents' dental wellbeing propensities impact their children's verbal wellbeing. Verbal wellbeing instruction programs pointed at preventive activities are required to supply children not as it were with satisfactory verbal wellbeing, but way better quality of life. Uncommon consideration should be given to the complete family, concerning their way of life and verbal wellbeing propensities [21], [22]. Because parents impact the child's education process from an early age, parental motivation is a significant aspect in children's dental health. Parents must teach their children to wash their teeth on a regular basis in order to maintain good oral hygiene [23], [24]. Parents frequently pay less attention to primary tooth hygiene and health because they believe that damage to primary teeth (baby teeth) is not an issue that requires treatment because it will be replaced by permanent teeth. Caregivers of newborns and toddlers are frequently given insufficient information on effective preventive dental and oral health care, leading to mishandled in child oral care [23], [25].

Based on the data analysis that has been carried out on respondents for the variable anxiety in the act of tooth extraction, Maryam Surabaya Elementary School students show that most respondents are in the moderate anxiety category. This can be seen from the results of the questionnaire answers that, the respondents stated that they were a little anxious when one day they had to pull out another tooth, and a little anxious about giving anesthetic at the time of tooth extraction again.

The results of this study are supported by the opinion that, the experience at the first visit to the dentist determines the child's behavior at the next visit [26]. With the negative experience that children get at their first visit, it will create uncooperative children at the next dental treatment [27].

The findings of this study disagree from those of Masula's (2022) research, which contends that a person's degree of emotional maturity improves with age, as does a person's capacity to deal with challenges [1]. The experience of general anesthesia is hypothesized to contribute to dental anxiety; most studies show that anxiety is positively connected to previous general anesthesia experience [28]. Furthermore, general anesthesia is used to children and adolescents who are particularly recalcitrant, fearful, apprehensive, or uncommunicative, as well as patients who require immediate significant surgery or lengthy oral rehabilitation [29]. The frequency with which people see the dentist is thought to be an essential factor in their fear and anxiety about dental care. Patients who skip dental treatment have higher levels of anxiety than those who go on a regular basis. As a result, fearful patients choose to keep dentist visits only when absolutely required. For instance, when the sufferer can no longer tolerate the agony. The findings of the anxiety research on tooth extraction of Maryam Surabaya Elementary School students are consistent with the findings of Masula (2022) [1] that using the Modified Child Dental Anxiety Scale Faces (MCDAS-f) measuring instrument. The research found that the majority of 87 respondents experienced anxiety in the moderate anxiety category. Based on the results of data analysis using the Spearman rank correlation test, it was found that the p value showed a value of 0.032, so the p value is lower than 0.05. From this result it can be concluded that there is an effect of parental motivation on anxiety in the act of tooth extraction of Maryam Surabaya Elementary School students.

This is in line with Bankole's study (2021) which states that most parents stated that they wanted to stay with their children during their child's dental treatment. They argue that their presence during the child's dental treatment is to motivate the child and provide a sense of comfort and security to the child during dental treatment [30]. This is supported by Buldur (2020) research which shows that the role of parents in maintaining children's dental health can affect children's oral health status [31]. When establishing oral health promotion programs for children and adolescents, oral health practitioners should acknowledge and advocate for mothers' significant potential. This means that children who are not yet able to carry out independently in maintaining oral hygiene, the presence of parents in the role of mentors and supervisors in maintaining children's oral health is very important. Individuals with significant dental care anxieties should be diagnosed early, according to Helkimo (2022), since they postpone visits to the dentist and have higher care [32]. Anxiety in children can be caused by one of the parents' motivation. Based on the results of the questionnaire that was answered by the respondents, several parents agreed to give praise when they had their teeth extracted and were willing to take their children to the clinic if they complained about their teeth. because of that, some students also experienced mild anxiety at the tooth extraction procedure. It can be concluded that parental motivation can reduce children's anxiety during tooth extraction.

According to data analysis, respondents' parents are only somewhat motivated to have their children's teeth extracted. The majority of Maryam Surabaya Elementary School pupils reported considerable fear regarding tooth extraction. Parental motivation influences children's concern regarding

tooth extraction; the more motivated parents are, the more motivated children are in dental care and sustaining oral health. Because the home environment is the most fundamental educational vehicle, family environment characteristics have a significant influence in shaping children's motivation. The limitation of this study are the short research time and respondents must remember the time when the tooth extraction was carried out at the health service to be able to answer the questions on the questionnaire.

V. CONCLUSION

The purpose of this study was to examine the influence of parental motivation on anxiety in tooth extraction among Maryam Surabaya Elementary School pupils. Based on the findings of the analysis and discussion, it is likely to conclude that the motivation of parents for tooth extraction is usually in the medium motivation group and most of repondents experienced medium anxiety. The study's findings were based on the spearman rank correlation test, which yielded results for parental motivation (mean ± SD 37.95 ± 5.08) and student anxiety (mean ± SD 20.87 ± 10.20). ρ (0.032) < 0.05 was achieved, indicating that H0 is rejected. It can be inferred that parental motivation has an influence on anxiety in tooth extraction. The results of this study can be used as input for parents to able to improve communication to children so that they can be overcome anxiety about dental work, especially tooth extraction. For future reasearchers, it is hoped that it can cover a wider age of respondents with a more even distribution and also pay attention to the anxiety measurement tools that will be used and the need for research with other independent variables regarding the factors of dental anxiety.

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