



Critical Appraisal of Analysis of Children's Anxiety in Dental Health Services in the Coastal District of Bulukumba Indonesia: A Study on Promotion of Dental and Oral Health

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Abstract

Objective: Dental anxiety in children is associated with poor oral health outcomes and becomes a problem in patient management, thus avoiding the dentist. The aim of this study was to determine the relationship between children's anxiety about dental care with age and gender in coastal communities.

Materials and Methods: This type of research is analytically observational with a cross-sectional approach. Conducted on children aged 6-12 years in Bulukumba Regency, Indonesia, in July 2022. The sampling technique was coincidental with the criteria of being willing to fill out a questionnaire instrument totaling 241 samples.

Results: The relationship between dental care anxiety and age showed anxiety (47.7%) with p-value=0.00; there was a significant relationship. According to gender, the male gender group answered anxiety (23.7%) while women (24.1%) with p-value=0.04; there is a significant relationship.

Conclusion: In coastal communities, children of a certain age have a low level of anxiety, and there is a significant relationship between anxiety related to dental care and children's age and gender.

Keywords: Child dental anxiety, dental care, oral health promotion

Introduction

Dental anxiety in children has become a dental health dilemma, which is a major obstacle to dental care, and prolonged avoidance of dental treatment can cause problems, resulting in a lack of regular dental care and delays in seeking the necessary treatment.[1,2]

The oral cavity is the entrance to the human body, so damage to oral health can be seen not only in the oral cavity but also in other parts of the body. In 2016, according to the Federal Dental International (FDI), oral health can chew, swallow, smile, speak, and transmit many emotions with confidence and without discomfort, pain, and disease in the craniofacial area through facial expressions.[3-6]

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According to a report by the World Health Organization (WHO) and the Global Data Bank (1995), more than 15% of countries in the world confirm an average of 4 or 5 cavities, missing, or fillings for each child up to the age of 12 years. Indonesia has the largest population in Southeast Asia and faces dental and oral health problems in both adults and children.[3,5]

Based on the results (Riset Kesehatan Dasar; Riskesdas 2018), South Sulawesi Province has the second-largest proportion of dental and oral problems in Indonesia (71.5%), and the percentage of dental and oral problems at the age of 5–9 years and 10–14 years is 67.3% and 55.6%, respectively. It is reported that 5% to 52% of children experience a level of dental fear/anxiety that makes treatment difficult. The prevalence of dental anxiety worldwide reaches 6–15%, and in Indonesia, it reaches 22%.[7–9]

Dental Anxiety (DA) is an unpleasant emotional state or worry in anticipation of feared stimuli from dental treatment. Dental anxiety plays a major role in avoiding dental treatment. Anxious people tend to exaggerate pain and discomfort by dental treatment and delay or miss appointments, with negative consequences for their oral health and often having to undertake more complex interventions. Although mild fear is normal in children, when the fear increases, then problems will develop.[3,7,10,11]

Childhood dental anxiety is not only distressing for children and families but is also associated with poor oral health outcomes and increased dependence on expensive specialist dental services. Dental anxiety in children has been a problem in patient management for many years. Furthermore, the effects of anxiety have been shown to last into adulthood, thus avoiding the dentist. Dentists need to assess dental anxiety in pediatric patients as early as possible. Difficulty dealing with children is not only related to the treatment process but also emotional differences. Anxiety and fear are the emotions most often shown by children during treatment at the dentist.[12–15]

The fear of children is often a barrier for dentists to provide optimal care. Therefore, dentists need to establish good relationships with patients, especially pediatric patients. Children who have positive interactions with dentists can overcome their fears so that they will not be afraid to go to the dentist and have good oral and dental health.[15]

The manuscript explores the relationship between children's anxiety about dental care, age, and gender in

coastal communities in Bulukumba, Indonesia. Dental anxiety in children is recognized as a significant barrier to dental care and can lead to poor oral health outcomes. The study aims to investigate this issue and presents its findings using a cross-sectional approach.

Materials and Methods

The study design is a cross-sectional observational approach, which is appropriate for investigating relationships between variables at a specific point in time. The sampling technique, accidental sampling, might introduce selection bias as it relies on individuals who voluntarily filled out a questionnaire, potentially excluding those who are more anxious about dental care. However, this method may be acceptable for an initial exploratory study. This study was conducted on children aged 6–12 years in Bulukumba Regency, Indonesia, in July 2022. The sample number is 241 children. The questionnaire instrument has been measured for validity and correlation tests. This research used the Chi Square Test to see the relationship using the SPSS and Microsoft Excel programs. The official permission for this research has been approved by the Health Research Ethics Committee of the Hasanuddin University Dental and Oral Teaching Hospital.

Results

Research has been conducted on the relationship between children's anxiety about dental care with age and gender in the coastal community of Bulukumba Regency, Indonesia. A total of 241 samples of children aged 6–12 years were collected.

Based on Table 1, the research subjects are children aged 6–12 years (Ministry of Health of the Republic of Indonesia, 2009) with a total sample of 241 children. The results of the characteristics of the sample based on age are in the range of 9.47 ± 2.81 , with the highest percentage at the age of 6 years (9.0%) and the male gender being the most represented (56.0%).

Based on Table 1, regarding the frequency of anxiety in dental care, the most common result was the category of not being afraid, namely the question "How would you feel if you had to go to the dentist tomorrow for an examination?" which was 37.7%, sitting in the dentist's waiting room, which was 39%, sitting in a dental care chair, which was 29%, seeing a syringe for anesthesia, which was 30.2%, and a syringe inserted into the teeth or gums, namely 27.4% who answered "not afraid," fol-

Table 1. Questionnaire for child anxiety in dental care (N=241)

Questions	Yes	%	Not	%						
Have you ever been to the dentist if you had a toothache?	87	36.1	154	63						
Do you regularly visit the dentist?	15	6.2	225	93.4						
	VA	%	QA	%	A	%	LA	%	NA	%
How would you feel if you had to go to the dentist tomorrow for a check-up?	68	28.2	16	6.6	46	19.1	20	8.3	91	37.7
How would you feel if you were sitting in the dentist's waiting room?	66	27.4	17	7.1	44	18.3	20	8.3	94	39
How do you feel when you sit in the dental chair?	62	25.7	32	13.3	49	20.3	28	11.6	70	29
How do you feel when you see a syringe for anesthesia?	42	17.4	31	12.9	49	20.3	46	19.1	73	30.2
How do you feel when the needle is inserted into your gums?	39	16.2	27	11.2	59	24.5	50	20.7	66	27.4

VA: Very afraid, QA: Quite afraid, A: Afraid, LA: Little afraid, NA: not afraid

lowed by the next highest result from the category of anxiety, slightly afraid, afraid, very afraid, and least answered "quite afraid." It can be seen that most children are not afraid when they undergo dental treatment procedures, but there are also a few respondents who answered that they were a little afraid. Thus, children aged 6–12 years show anxiety about visiting the dentist.

Based on Table 2 about the relationship between anxiety and dental care, the relationship between dental care anxiety and age shows anxiety (47.7%) with p-value=0.00, which means there is a significant relationship. According to gender, indicating that the male gender group answered anxiety (23.7%) while women (24.1%) with p-value=0.04, which means there is a significant relationship.

Discussion

Patients who have dental anxiety tend to avoid regular visits to the dentist and require more time for treatment; this will affect the severity of the condition of the teeth and mouth. Several factors that influence anxiety disorders include gender, age, socioeconomic, and educational level.[3,16]

Based on the results of Table 2, most children are not afraid of several questions. This is not in line with research conducted by Amir (2018), one of the reasons a person never gets treatment or comes to the dentist is due to anxiety about dental procedures. Dental anxiety levels increase when seeing operators prepare equipment for dental extraction procedures such as forceps and syringes.[3]

Based on the results of the study in Table 2, it was found that there was a significant relationship between anxiety about dental care age and gender. The results of this study are in line with several previous studies. Accord-

Table 2. Relationship between anxiety about dental care with age and gender (N=241)

Variable	Anxiety				p
	Not	%	Anxiety	%	
Age	126	52.3	115	47.7	0.00*
Gender					
Male	79	32.8	57	23.7	0.04*
Female	47	19.5	58	24.1	

Chi Square Test. *: p<0.05: Significant

ing to research by Saputro (2020), females have higher dental anxiety than males. The female dental anxiety level is higher because they have negative emotional feelings more than male. Females tend to be influenced by internal factors and males by external factors. Females are generally excessive in expressing anxiety, such as crying more easily and being impatient.[17]

A comparison of the prevalence of dental anxiety by gender showed that female subjects felt more anxious than males. In general, females are more responsive to certain stimuli, such as pinpricks, than males. Males tend to hide their fears. In addition, females have characteristics of anxiety compared to males.[16] Studies on psychopathological phenomena show that women exhibit more anxiety, worry, and fear. It appears to be very common and is found across a wide variety of cultures and populations.[18]

Liana, I. (2022) suggested that when a child enters the dental treatment room, the first thing the dentist should do is to place the child as comfortably as possible and direct that this experience is not unusual. One effective method is with a comfortable and warm waiting room so that the child feels at home. Therefore, room decoration plays an important role and is closely related to psychological conditions.[19,20]

Children were twice as afraid of the dentist, but in children with poor oral health, the number of fears was the same for the younger and the older. Older children have cognitive abilities, social emotional changes, self-control, and greater responsibility, and can accept things realistically so they have a better perception of scary situations.[21,22]

In pediatric patients, this anxiety becomes normal because the situation they face is a new experience, while for adult patients it can occur based on bad experiences in childhood with dental and oral care that can cause trauma and affect the patient into adulthood. The older one gets, the more experience and knowledge one will have, which will make one more prepared to face something.[23,24]

Conclusion

Shows that coastal children have low levels of anxiety, with significant relationships observed with age and gender. However, it is important to reiterate that the research methodology and sample selection may limit the generalizability of these findings.

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References

- Chandak S, Khekade S, Wasnik M, Lamba M, George M, Gahlod N. Relationship between oral health related quality of life and dental anxiety among 11 to 14 year old children. *J Adv Med Dent Sci Res* 2019;7:53–7.
- Almoznino G, Gal N, Levin L, Mijiritsky E, Weinberg G, Lev R, et al. Diet practices, body mass index, and oral health-related quality of life in adults with periodontitis - a case-control study. *Int J Environ Res Public Health* 2020;17:2340.
- Singh H, Chaudhary S, Gupta A, Bhatta A. Oral health knowledge, attitude, and practices among school teachers in Chitwan District, Nepal. *Int J Dent* 2021;2021:9961308.
- Alshemari MA, Alkandari SA. Oral health knowledge and attitudes towards oral health education among elementary school teachers in Kuwait. *Oral Health Prev Dent* 2021;19:595–602.
- Alshloul MN. Oral health knowledge, attitude, and practice among school children in Abha-Saudi Arabia. *J Sch Nurs* 2023;39:295–304.
- Anwar AI, Zulkifli A. The influence of demonstration method education in the knowledge of tooth brushing in children age 10–12 years. *Enfermeria Clin* 2020;30:429–32.
- Salem K, Kousha M, Anissian A, Shahabi A. Dental fear and concomitant factors in 3-6 year-old children. *J Dent Res Dent Clin Dent Prospects* 2012;6:70–4.
- Suryaputri IY, Mubasyiroh R, Idaiani S, Indrawati L. Determinants of depression in Indonesian youth: Findings from a community-based survey. *J Prev Med Public Health* 2022;55:88–97.
- Anwar AI, Zulkifli A, Syafar M, Jafar N. Effectiveness of counseling with cartoon animation audio-visual methods in increasing tooth brushing knowledge children ages 10–12 years. *Enfermeria Clin* 2020;30:285–8.
- Caltabiano ML, Croker F, Page L, Sklavos A, Spiteri J, Hanrahan L, et al. Dental anxiety in patients attending a student dental clinic. *BMC Oral Health* 2018;18:48.
- Alshoraim MA, El-Housseiny AA, Farsi NM, Felemban OM, Alamoudi NM, Alandejani AA. Effects of child characteristics and dental history on dental fear: Cross-sectional study. *BMC Oral Health* 2018;18:33.
- Sulakshana PP, Meharwade P, Mallikarjuna K. Child dental anxiety and its associated factors. *Int J Appl Dent Sci* 2019;5:95–9.
- Hatem A, Nahed AH. Dental anxiety and its relationship to dental and non-dental background variables among 6-12 years old pedodontic patients. *Egypt Dent J* 2004;50:851–63.
- Assunção CM, Losso EM, Andreatini R, de Menezes JVNB. The relationship between dental anxiety in children, adolescents and their parents at dental environment. *J Indian Soc Pedod Prev Dent* 2013;31:175.
- Senjaya AA, Ratmini NK, Sirat NM. Hubungan rasa takut anak terhadap perawatan gigi dengan umur dan jenis kelamin pada siswa sekolah dasar negeri 3 padang sambian kelod. *J Kesehat Gigi* 2021;8:15–21.
- Dewi KKC, Anggaraeni PI, Valentina TD. Faktor-faktor yang mempengaruhi kecemasan dental pasien usia dewasa muda sebelum tindakan perawatan gigi di Puskesmas II Denpasar Barat. *Bali Dent J* 2018;2:82–7.
- Saputro H, Fazrin I, Yalastyarini EA. The correlation between stimulation, nutritional status and child development. *Jurnal Ners* 2020;15:96–100.
- Tariq MI, Ahmad A, Chaudhry KA, Ismail H. Prevalence of dental anxiety among the dental patients presenting in surgical outpatient department of a tertiary care dental hospital: A cross sectional survey. *Pak J Med Health Sci* 2017;12:1375.
- Fadjeri I, Purnama T, Nurwanti W. Dental health status of early childhood patients in dental health care clinics. *J Drug Deliv Ther* 2022;12:48–50.
- Liana I. Analysis of parents' social economic status towards caries status in children. *DHeJA Dent Health J Aceh* 2022;1:27–39.
- Nabila Zalfa S, Puteri MM, Wahlyuo S. Relationship of fluoride and calcium levels in drinking water on periodontal diseases in children aged 6-8 years (Research observations in Bangkalan district). *EurAsian J BioSciences* 2020;14:3247–50.
- Anbari F, Elmi Z, Anbari F, Rezaeifar K. General anxiety and dental fear: Is there a relationship? *J Dent Mater Tech* 2019;8:190–6.
- Gujjar KR, Van Wijk A, Kumar R, De Jongh A. Are technology-based interventions effective in reducing dental anxiety in children and adults? A systematic review. *J Evid Based Dent Pract* 2019;19:140–55.
- Yaddanapalli SC, Sultana SP, Lodagala A, Babu PC, Ravoori S, Pachava S. Oral healthcare-seeking behavior and perception of oral health and general healthcare among WHO indexed age groups in East-Coast India. *J Family Med Prim Care* 2020;9:3600.