

# A narrative review on the effectiveness of therapeutic communication in reducing anxiety in children during dental treatment procedures

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## Abstract

**Background:** Dental anxiety is anxiety about dental treatment carried out before or immediately after a dental treatment procedure, which will have an impact on the difficulty of the dental team in carrying out dental treatment. One of the interventions that the dental team can carry out with pediatric patients is therapeutic communication.

**Objective:** This study aims to further discuss regarding the effectiveness of therapeutic communication in reducing anxiety in children during dental treatment procedures.

**Methods:** A systematic search of the Google Scholar database, then a narrative review of the identified articles was conducted with a focus on articles published in the last 10 years.

**Discussion:** Therapeutic communication, a non-pharmacological intervention, plays an important role in managing anxiety in children when undergoing dental treatment procedures, because it has the benefit of reducing psychological problems in children such as anxiety, fear and changes in behavior, especially during dental treatment procedures. Some scientific evidence shows a significant value of  $p < 0.05$  and an OR value  $> 1$  which indicates a correlation between therapeutic communication and the level of dental anxiety.

**Conclusion:** Based on the results of the narrative review conducted, we conclude that the better the therapeutic communication carried out by the dental team, the lower the level of anxiety in children during dental treatment procedures.

**Keywords:** Anxiety; Dental anxiety; Dental fear; Non-pharmacological intervention; Therapeutic communication.

## 1. Introduction

Anxiety is an unpleasant emotional condition, which often gives rise to a vague feeling of danger or threat, involving subjective fear, bodily discomfort, and is often accompanied by autonomic symptoms such as increased breathing, muscle tension, sweating, headaches, palpitations, tightness in the chest, mild abdominal discomfort, restlessness, characterized by the inability to sit or stand still for a certain period of time [1]–[4]. Increased anxiety that is not treated can lead to systemic distress, such as increased blood pressure [5], vagal reflex [6], impaired cognitive feelings [7], impaired performance of procedures, and increased working time [8]. Factors causing anxiety include unpleasant environments and events or experiences, feelings that are not expressed, and all things that affect the body and mind are always connected and can cause anxiety [9]. Besides that, according to Carnegie, anxiety factors are divided into three, namely cognitive factors which cause anxiety due to anticipation of a frightening and painful situation, environmental factors which originate from relationships and are determined by conditions, customs, and values in society, as well as learning process factors which are the result of humans learning responses to stimulation that warn of dangerous and painful events that will soon occur [10]. One type of anxiety that is often encountered, especially in children, is dental anxiety.

Dental anxiety is a feeling of fear regarding dental treatment that occurs before or immediately after a dental treatment procedure is carried out, which will have an impact on the difficulty of the dental team in carrying out dental treatment because the child will tend to avoid and refuse accompanied by expressions of anxiety in the form of crying, screaming and rebelling [11]. Dental anxiety affects 10-20% of adults and 43% of children and adolescents [12], [13]. Other data reports that 30% of children worldwide experience dental anxiety which has an impact on poor oral health [14]–[16]. Dental anxiety in children contributes significantly to children's avoidance of dental care [17]. This results in challenges for children, parents and the dental team. Dental anxiety refers to anxiety associated with the thought of seeing a dentist for dental procedures, resulting in difficulties in behavioral management, avoidance of dental care, and poorer oral health outcomes [15], [18], [19]. Several factors support the emergence of dental anxiety; the first is age, where younger children tend to be more anxious when visiting the dentist compared to older children. The second factor is educational and socioeconomic status, where children from low socioeconomic families and low levels of education tend to experience dental anxiety, which is possibly due to decreased awareness of dental care. However, children from families with high socioeconomic and educational levels can also experience high levels of dental anxiety because they have access to information about dental treatment procedures. The third factor is ethnic and

cultural background which has an influence on the level of dental anxiety in children. The fourth factor is the number of siblings, this is possibly because the children will be more exposed to information related to dental treatment experiences that have been carried out by other siblings or because the children saw the anxiety that occurred in their siblings, which has an impact on increasing dental anxiety. Other factors are previous general anesthesia, dental caries, parental anxiety, dental treatment procedures, experience of visiting the dentist, dentist clinic environment, and children with general and psychological anxiety status [17], [18].

There are two types of management to manage dental anxiety, namely pharmacological and non-pharmacological managements, which depend on the level of anxiety experienced by the patient [20]. In children with low or moderate levels of anxiety, it can be managed by building trusting relationships, good communication skills, empathy, careful care and some basic non-pharmacological interventions [21]. Non-pharmacologic interventions used for non-severe levels of anxiety include music and audio-visual interventions [13], [22], tell-show-do technique, relaxation, systematic cognitive behavioral therapy [23], verbal and non-verbal communication, voice control, positive reinforcement, relaxation with breathing control, distraction, modelling, guided imagination, hypnotherapy, systematic desensitization, progressive muscle relaxation, functional relaxation therapy, and physical restraint [24]. One of the various interventions that can be carried out to reduce dental anxiety in children is to increase the ability of medical personnel or dental team to provide emotional and spiritual support to pediatric patients through communication and establishing a therapeutic relationship with children [25].

Communication, according to Harold D Lasswell, is a process of who explains, says what, with what media, to whom, and with what consequences or results. Communication can be classified into intrapersonal communication, interpersonal communication, group communication, public communication, organizational communication, and mass communication [26]. One form of interpersonal communication is therapeutic communication. Therapeutic communication is communication planned and carried out by health workers to patients with the aim of the healing process or solving problems faced by the patients [27]. This communication develops interpersonal relationships between medical personnel and patients, so that this process includes special abilities because medical personnel, including dentists, must pay attention to various interactions and non-verbal behavior in addition to deliberately providing information for the benefit of the patient and maximizing the treatment plan [28]. In its application, the quality of communication between the dentist and the patient is important because it is an indicator of success in the patient's healing process, in addition to using pharmacological therapy [29].

Based on the background presented, the objective of our review is to discuss further the effectiveness of therapeutic communication in reducing dental anxiety in children during dental procedures, considering the high prevalence of dental anxiety that occurs in children and adolescents, and non-pharmacological intervention, including therapeutic communication, is dental anxiety management that has very low side effect compared to pharmacological interventions.

## 2. Methods

A narrative review is a type of qualitative research synthesis that aims to describe the results of previous quantitative research that has used a variety of methodologies [30], [31]. We conducted a comprehensive literature search in the Google Scholar database from August 25, 2023 to August 30, 2023 to identify relevant articles, using a combination of keywords: "communication", "therapeutic communication", "interpersonal communication", "dental anxiety", "child dental anxiety" and "dental fear". We limited this review to research articles on human subjects and included peer-reviewed articles, including primary research, reviews, reports and electronic books based in Indonesian and English with a publication range in 2013-2023. By using a narrative review, this research seeks to understand the relationship and effectiveness of therapeutic communication in reducing dental anxiety in children.

## 3. Discussion

Management of dental anxiety in children can be done pharmacologically and non-pharmacologically. In cases where the children experience severe dental anxiety or phobia, it can be managed pharmacologically using behavioral guidance techniques, nitrous oxide sedation, sedation (oral, sublingual, inhalation, intravenous, intranasal, intramuscular, or rectal) and general anesthesia [32]. However, in one study results stated that dentists did not provide pharmacological management in the form of general anesthesia because it resulted in excessive use of general anesthesia in children and the National Consensus Development Conference on Anesthesia and Sedation in the Dental Office suggested that sedation and general anesthesia may not be necessary in situations where psychological and behavioral approaches are already effective [21]. Meanwhile, in the case of children with low or moderate dental anxiety, it can be managed effectively using non-pharmacological management, this is supported by literature review conducted by Maharani et al. (2021) which concluded that non-pharmacological management can reduce children's dental anxiety levels, as well as in research conducted by Condratovici et al. (2018) which stated that psychological interventions were effective in reducing anxiety levels in dental clinics in adult patients and especially children, which resulted in reducing the need of pharmacological sedatives. Besides that, therapeutic communication between the dental team and pediatric patients is a non-pharmacological management which is also believed to reduce dental anxiety in children when carrying out dental treatment procedures.

Therapeutic communication is an important form of interpersonal communication that is built on the basis of meeting patient needs with the aim of healing or solving patient problems [27]. Exchange of information, both verbal and non-verbal communication, is involved in therapeutic communication. Verbal communication includes sentences, content and context, while non-verbal communication is the attitude that follows verbal communication which includes body language, eye contact, facial expressions and intonation. Several studies state that patients appreciate health services more after there is a good relationship between the doctor and the patient, where the doctor provides an explanation of the symptoms and treatment that will be carried out or prescribed, the patient can ask their questions and opinions and talk with the medical team, and think the doctor is trying to build partnerships. This is in accordance with the general goals of therapeutic communication, namely gathering information to determine disease, assess and change behavior, and provide education [35]. Additionally, therapeutic communication also has benefits, such as reducing psychological problems in children such as anxiety, fear and changes in behavior [36]. There are several things that pediatric patients cannot do that adult patients do, namely making their own decision regarding dental treatment. In research conducted by Morgan et al. (2017), respondents tried to trick or force their parents into cancelling dental appointments, which made parents feel overwhelmed and unable to convince their children that they needed to come for a dental examination or treatment by the dental team. Thus, therapeutic communication does not only focus on improving physical well-being, but also on managing the patient's emotions, including anxiety and fear of being treated by a dentist.

Increased anxiety in children can be caused by poor therapeutic communication between the medical team and pediatric patients, so good therapeutic communication from the medical team to the patient is needed to reduce patient anxiety, including dental anxiety in pediatric patients. Some supporting evidence includes the results of research conducted by Wati et al. (2019) which stated that good therapeutic

communication resulted in 22.2% of child respondents experiencing mild anxiety, 72.2% experiencing moderate anxiety, and 5.6% experiencing severe anxiety. However, with good therapeutic communication treatment, 75% of children experience mild anxiety, 25% experience moderate anxiety, and no children experience severe anxiety. This finding is corroborated by the results of research carried out by Siregar et al. (2022) where the dental team who provided fairly good therapeutic communication to children during tooth extraction procedures resulted in 50% of children showing flat faces, 26.9% experiencing anxiety, and 23.1% experiencing very anxious behavior. Meanwhile, providing good therapeutic communication resulted in 18.2% of children showing a flat face, 59.1% experiencing anxiety, and 22.7% experiencing severe anxiety. The two findings above showed that there is an influence between medical personnel's therapeutic communication and children's anxiety, which is indicated by significance values of  $p=0.016$  and  $p=0.041$ , respectively.

These two studies are corroborated by the finding of research conducted by Andriana et al. (2016) which examined comparisons between child tooth extraction patients who were treated and not treated with therapeutic communication, and the results of children who were treated with therapeutic communication had a fear perception score of 12.17, while children who were not treated with therapeutic communication had a score of 18.83, with a  $p$ -value of 0.037. Similar research was also conducted by Sivrikaya et al. (2021), dental anxiety was evaluated one week pre-operatively and post-operatively using the Spielberger's State-Trait Anxiety Inventory (STAI-T and STAI-S) scale, Modifier Dental Anxiety Scale (MDAS) and Visual Analogue Scale (VAS), showed the results that the control group had higher anxiety than group 2 (communication occurred before the action) and group 3 (communication occurred before and after the action) according to the VAS ( $p<0.05$ ). The level of dental anxiety in this group decreased after dental procedures based on MDAS and VAS scores ( $p<0.05$ ). The results of a similar study were carried out by Pratita et al. (2014) who measured the patient's anxiety level using the Hamilton Anxiety Rating Scale (HARS) and found that 21 patients who received fair communication experienced a moderate level of anxiety as much as 81%, while 19 patients who received adequate communication experienced mild anxiety as much as 52.6%, with a  $p$ -value  $<0.05$ . So, it can be concluded from several evidence that communication with patients is important because it can reduce dental anxiety in patients before carrying out procedures. This is in accordance with research done by Timah & Yudita (2018) which states that there is a relationship between therapeutic communication and anxiety levels which is indicated by a  $p$ -value=0.005 and OR value=10.714, which means that good therapeutic communication has a 10.7-fold chance of reducing the level of anxiety in patients compared with poor therapeutic communication.

Therefore, having good therapeutic communication will make it easier for the dental team to establish relationships with patients, so that the communication process will be more effective and achieve its goals and have an impact on professional satisfaction in services [28]. The goals of therapeutic communication are to make it easier for patients to reduce the burden of thoughts and feelings, assist in the process of taking action, increase the patients' sense of trust in the things that are needed, increase the patient's sense of trust in their health status, and be able to establish close relationships and interactions between patients with health workers in helping resolve patient problems [27], [28]. In addition, good therapeutic communication has a role in building harmony between the medical team and the patient and increasing the sensitivity of the medical team in understanding the patient's psychological condition through an empathetic attitude, so that it can help reduce patient anxiety because the patient can deepen his feelings, talk about his anxieties and fears, face his worries, and obtain the solution or knowledge needed [36], [41], this is because there is strong evidence showing that the experience of anxiety in patients regarding dental treatment procedures is based on the emotional interaction of the dental team with the patient [42]. So, by carrying out good therapeutic communication from the dental team, the patient and the patient's family will not avoid a series of dental treatment procedures caused by dental anxiety, because the patient already knows and understands what procedures will be carried out by the dental team.

There are several stages of therapeutic communication in the communication process, namely the pre-interaction stage which at this stage begins before there is an agreement with the patient, health worker, as communicator, needs to explore information related to the patient, the patient's strengths and weaknesses, then creates a strategy for the first meeting with patient. The next stage is the introduction stage, in this case the health worker has the first meeting with the patient, the medical team must be open in the hope of encouraging the patient to be more open to the medical team. The aim at this stage is to validate the patient's data and the plans that have been made according to the patient's current condition. The next stage, which is the core stage, is the work stage, where the relationship between medical personnel and patients is closely related to the implementation of planned medical procedures that will be carried out in accordance with the goals to be achieved. What the medical team needs to do at this stage is to encourage the patients to tell about the problems they are facing, how to overcome the problems and how to solve the problems. Also, the last stage is the termination stage which is the end of the meeting with the patient, divided into two, namely the temporary termination stage, at this stage the medical team will meet again with the patient in accordance with the agreement, and the final termination which occurs when the medical team and patient have completed the entire medical procedure process [27], [28], [43]. In therapeutic communication with children, the dental team must always pay attention to the tone of voice, the distance of interaction with the patient, the touch given to the patient must be with the children's consent, so that a good relationship between the dental team and the children will be easily formed and the patient will feel safe, have low level of anxiety, and feel safe in undergoing all dental procedures that will be carried out by the dental team [44].

In the field of dentistry, soft skills, one of which is therapeutic communication skills, are essential because these skills reflect the basic concepts and interpersonal skills owned by the dental team, thus playing an important role in providing effective health services [45]. Therefore, it is crucial for dentist and dental team to carefully consider their communication strategies when interacting with patients and/or colleagues, both verbally and non-verbally. In addition, based on several studies presented above, we conclude that good therapeutic communication is essential for the dental team to carry out with patients, especially children, because it can reduce anxiety in children. So, the entire dental procedure process carried out by the dental team can run in accordance with procedures and common goals.

## 4. Conclusion

Based on the results of our review conducted, we conclude that there is a relationship between therapeutic communication and reducing dental anxiety in pediatric patients, where the better the therapeutic communication carried out by the dental team, the lower the level of anxiety in children during dental treatment procedures.

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## Conflict of interest

The authors declare no conflicts of interest regarding this review.

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