Pesquisa Brasileira em Odontopediatria e Clínica Integrada 2025; 25:e240091
https://doi.org/10.1590/pboci.2025.105
ISSN 1519-0501 / eISSN 1983-4632

CRITICAL REVIEW

Discussing the Hand-Over-Mouth Technique

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Academic Editor: Alessandro Leite Cavalcanti

Received: July 31, 2024 / **Review:** October 21, 2024 / **Accepted:** December 09, 2024

How to cite: Dezan CC, Machado MAAM, Volpato LER, Mazetto A, Farias AC. Discussing the hand-over-mouth technique. Pesqui Bras Odontopediatria Clín Integr. 2025; 25:e240091. https://doi.org/10.1590/pboci.2025.105

ABSTRACT

Objective: To discuss the relevance or not of using the "Hand Over Mouth Technique" (HOM) to manage children's behavior in dental offices today, with an emphasis on ethical and legal aspects. **Material and Methods:** A literature review was carried out considering legal frameworks in the administrative, civil, and criminal spheres, aiming to identify potential violations that put professionals at risk of legal, civil, and criminal ethical proceedings. **Results:** Some crucial aspects need to be highlighted when discussing HOM, including the context in which it was used and the current reality of dental care for children. Dental treatment for children must be based on the humanization of care, health promotion, with parents inside the office, and minimally invasive dentistry. Techniques such as selective dentin removal, atraumatic restorative treatment, application of silver diamine fluoride, and conscious sedation are a reality in pediatric dentistry offices and offer effective and less traumatic treatment possibilities. **Conclusion:** Using Hand Over Mouth Technique violates the Code of Dental Ethics and at the same time, places the professional who uses it in a borderline situation in relation to the Brazilian Statute of the Child and Adolescent and the Consumer Protection Code.

Keywords: Child; Child Behavior; Behavior Control; Pediatric Dentistry.

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Introduction

The world has changed! Who would accept a teacher reprimanding their child - or nephew, grandson, godson..., shouting or brandishing a ruler? With this analogy in mind, we intend to discuss the relevance or not of using the Hand-Over-Mouth Technique (HOM) in managing children's behavior in dental offices, emphasizing ethical and legal aspects.

The trajectory of this paper begins with the observation that ethical-legal processes arising from the use of the HOM still occur in Regional Dentistry Councils. Subsequently, a symposium entitled "Discussing the Hand Over Mouth Technique" was organized by the Federal Council of Dentistry, which took place in January 2024 during the 46th International Dental Congress of São Paulo. Thus, this article seeks to present the main points discussed and the respective conclusions drawn and, in this way, contribute to the clarification of dental surgeons about the ethical-legal implications of using HOM in the administrative, civil, and criminal spheres. The paper is founded on Brazilian law, although the censoring regarding this technique is a worldwide consensus.

1.1 Some Historical Landmarks

As far as can be investigated, HOM was first described by Minnie Evangeline Jordan in her book "Operative Dentistry for Children" [1]. According to her description (page 9):

> "*If a normal child will not listen but continues to cry and struggle, the following plan has never failed: explain to the parents that you will hold him until he stops crying and dismiss them to the waiting room. With the right hand, hold a folded napkin over the child's mouth so arranged that it does not cover his nose, place the left arm around his head, and with the left hand, gently but firmly hold his mouth shut. His screams increase his condition of hysteria, but if the mouth is held closed, there is little sound, and he soon begins to reason. Have the nurse hold his hands and feet. Tell him in a low, gentle voice that nothing is going to hurt him and that you will take the napkin away as soon as he promises to be good.*"

HOM was widely applied throughout almost the entire 20th century. By the end of the 1970s, it was widespread and accepted in the USA, as around 90% of postgraduate course coordinators in pediatric dentistry reported that they taught it in their courses [2]. However, from the 1990s onwards, there was a gradual and significant decrease in employment. Acs et al. [3], when replicating the study by Davis and Rombom [2], demonstrated that the reported frequency of its teaching by coordinators of postgraduate courses in pediatric dentistry fell from 89% in 1979 and 1989 to 44% in 2001.

Still, in the North American context, two editorials published in the journal Pediatric Dentistry from the American Academy of Pediatric Dentistry (AAPD) play a pivotal role in decreasing HOM use. The first, signed by Professor Paul Casamassimo in 1993, stated that it would slowly disappear with the retirement of a generation of dentists who used it well or not so well and that someday it would only be found as an obscure reference in texts about pediatric dentistry or about law [4]. A decade later, editor-in-chief of Pediatric Dentistry, Professor Steven Adair, states: "*It is time for us to recognize that there is no longer a place in our armamentarium of acceptable behavioral guidance techniques for HOM. The AAPD should set a timetable for its exclusion from our guidelines.*" [5]. However, it was only in 2016 that it was excluded from the list of child behavior management techniques of AAPD Guideline on Behavior Guidance for the Pediatric Dental Patient [6].

In Brazil, since 2021, the Brazilian Association of Pediatric Dentistry (ABOPED) has not recommended using HOM and the Hand in Mouth and Nose (HOMN) techniques, as stated in the Guidelines for Clinical

Procedures in Pediatric Dentistry. ABOPED's position is based on the lack of scientific evidence supporting its use and the fact that it is socially unacceptable [7].

1.2 Current Overview

Some crucial aspects need to be highlighted when discussing HOM, including the context in which it was used and the current reality of dental care for children. HOM was widely applied in the Restorative Surgical Dentistry paradigm, focused on repairing damage in situations where most children needed multiple and extensive restorations. Furthermore, at that time, the recommendation was that parents should wait outside the office, not taking an active role in their children's oral health care or participating in managing their behavior during clinical care.

In contrast to the past, nowadays, dental treatment for children must be based on the humanization of care, health promotion, with parents inside the office, and minimally invasive dentistry. Techniques such as selective dentin removal, atraumatic restorative treatment, application of silver diamine fluoride, and conscious sedation are a reality in pediatric dentistry offices and offer effective and less traumatic treatment possibilities.

The increased frequency of psychological problems in children needs to be considered. Worldwide, a systematic review of the impact of the COVID-19 pandemic on the mental health of children and adolescents demonstrated that the prevalence of anxiety symptoms ranged from 1.8% to 49.5%, depression from 2.2% to 63.8%, irritability from 16.7% to 73.2% and anger from 30.0% to 51.3% [8]. In Brazilian children and adolescents, Zuccolo et al. [9] found that during the pandemic, the prevalence of anxiety and depression was 29.7% and 36.1%, respectively.

Given the lack of scientific evidence supporting HOM use [7] and the significant social changes in how families educate their children, Ethical and Legal aspects become preponderant. If, for any reason, the dentist practicing the technique mentioned above is administratively reported to the Dentistry Council or even civilly or criminally reported, the professional will be subject to legal regulations in force in the country.

2. Legal Ethical Aspects

2.1 Administrative Sphere

At an administrative level, the Dental Code of Ethics (DCE) [10], whose objective is to regulate the practice of dentistry throughout the national territory, could potentially be violated by the HOM use in at least five articles, which could result in penalties for the professional. Article 9th, in sections VI, VII, and XIV, establishes:

> *Art. 9th. Constitute fundamental duties of those registered, and their violation constitutes an ethical infraction:*
>
> *VI. Keep up-to-date professional, technical-scientific, and cultural knowledge necessary for the full performance of professional practice;*
> *VII. Care for patient health and dignity;*
> *XIV. Assume responsibility for acts performed, even if these were requested or consented to by the patient or their guardian.*

Given the lack of scientific evidence to support the practice of HOM and the position against its use by associations representing pediatric dentistry [6,7], it is clear that when using it, the professional does not fulfill his duty to keep technical-scientific knowledge up to date. In this way, this professional does not meet the

fundamental responsibilities of those registered with the Dentistry Council, and its violation constitutes an ethical infraction.

Still, in Article 9th, a joint analysis of items VII and XIV is appropriate. HOM has a high potential to harm a person's dignity, which in this case is aggravated because it is a child. Even in situations where parents/legal guardians have given tacit or written consent, if they understand that, at some point during the treatment, the child's health or dignity was not properly respected, there is the possibility of a complaint.

Article 11 of the DCE [10], in items III, IV, V, and VIII, also presents potential situations of infraction when practicing HOM:

> *Art. 11. It constitutes an ethical infraction:*
>
> *III. Exaggerate in diagnosis, prognosis, or therapy;*
>
> *IV. Failing to adequately clarify the purposes, risks, costs, and treatment alternatives;*
>
> *V. Perform or propose unnecessary treatment for which you are not qualified;*
>
> *VIII. Disrespecting or allowing the patient to be disrespected.*

Accurate diagnosis of a child with non-collaborative behavior and selecting and applying the appropriate technique to manage the behavior in such cases requires high technical qualifications and emotional control from the professional. An exaggerated diagnosis would cause a child, who could be psychologically managed to collaborate with the treatment through non-aversive techniques (such as tell-show-do, positive reinforcement, and even voice control), to be unnecessarily subjected to HOM. Such situations constitute a potential violation of items III, IV, and V.

Similar to what is described in Article 9th, item VII, which deals with care for the person's dignity, in Article 11, item VIII, applying the technique can constitute disrespect for the patient if understood by parents/legal guardians. Even when tacit or written consent is obtained, the professional will be subject to a complaint and, subsequently, an ethical-legal process, as the professional does not share responsibility with the layman.

Finally, Articles 18 and 55 of the DCE [10] could also be violated when practicing the above mentioned technique.

> *Art. 18. It constitutes an ethical infraction:*
>
> *I. Deny access to dental records to the patient or to the one who undergoes expertise, failing to provide a copy when requested, as well as failing to provide explanations necessary for understanding, except when they pose risks to the patient or third parties.*
>
> *Art. 55. These are circumstances that can aggravate the sentence:*
>
> *VI. Taking advantage of the patient's fragility.*

Health communication refers to exchanging health-related information and messages between healthcare professionals, patients, and the general public. It must be clear and accessible to ensure that information is fully understood by the general public, regardless of their level of education or health literacy. This includes using simple language, avoiding complex medical jargon, and adapting the message to the cultural and linguistic context of the recipients [11,12]. The complexity of health communication associated with the aversive nature of HOM makes very thin the dividing line between what the parents/legal guardians understood to be HOM and what they experienced during its application to their child. This fact places the professional in a fragile situation in light of Art 18, item I, which is further aggravated by being a child, according to Art 55, item VI.

Considering that the DCE [10], in Art. 1st. *"… regulates the rights and duties of dental surgeons…*" and that according to Art. 3rd, "The objective of all dental care is the health of the human being…" which must be understood in the biopsychosocial dimension; it is clear that, unless better judged, the application of HOM violates the dental ethics code.

2.2 Civil and Criminal Sphere

In civil and criminal spheres, the use of HOM must consider the Child and Adolescent Statute [13] and the Consumer Protection Code [14]. Three articles from the Child and Adolescent Statute deserve attention; they are:

> *Art. 13. Cases of suspicion or confirmation of physical punishment, cruel or degrading treatment, and ill-treatment against a child or adolescent must be reported to the Guardianship Council of the respective locality without prejudice to other legal measures. (Wording given by Law No. 13,010 of 2014)*
> *Art. 17. The right to respect consists of the inviolability of children and adolescents' physical, psychological, and moral integrity, encompassing the preservation of image, identity, autonomy, values, ideas and beliefs, personal spaces, and objects.*
> *Art. 18. It is everyone's duty to safeguard the dignity of children and adolescents, keeping them safe from any inhuman, violent, terrifying, humiliating, or embarrassing treatment.*

In particular, cruel or degrading treatment referred to in Article 13 of the Child and Adolescent Statute [13] is likely to occur in cases where the child's collaborative behavior is not achieved when HOM is first applied. Re-applying the technique generates anxiety and nervousness, both in the professional and in the parents/legal guardians, which, in turn, increases susceptibility to episodes of lack of emotional control on the part of the professional and parents/legal guardians. Such a situation may culminate in parents understanding that there was cruel, degrading treatment and/or mistreatment of the child; this places the professional in a situation of affront to the provisions of article 13 of the Child and Adolescent Statute [13] and, therefore, subject to civil and criminal sanctions.

Article 17 of the Child and Adolescent Statute [13] teaches about the inviolability of children and adolescents' physical, psychological, and moral integrity. Concerning physical integrity, two factors need to be considered: the first concerns mouth or limb injuries, and the second concerns respiratory arrest. As for physical injuries, in cases where excessive force is applied to the child's mouth with the hand, the upper labial frenulum may rupture, causing bleeding and swelling; it is essential to remember that HOM is used to contain disruptive behavior when it is not always possible to control the amount of force applied with your hands. Professor Adair, in his editorial titled "Hand-over-mouth: No Science and No Social Validity," describes a case of child abuse and neglect filed with the Idaho Department of Health and Welfare due to a lip injury inflicted by personnel dental practice by "placing the hand over the mouth in an attempt to calm the child" [5].

Regarding limb injuries, HOM is often used in conjunction with active physical restraint, in which auxiliary personnel or parents/legal guardians hold the patient's arms and legs. Therefore, immediate or delayed bruising may occur, depending on the amount of force applied to stabilize the limbs, which characterizes physical injury. Also, in the physical aspect, when using HOMN, there is the potential for triggering asthma attacks and respiratory arrests. Furthermore, cardiac arrests can occur when there is airway obstruction for a prolonged period.

With regard to the child's psychological and moral integrity, two situations are present: the lack of scientific evidence supporting the use of the technique [7] and its acceptance by parents/guardians [15]. There is no scientific evidence that the technique can or cannot cause psychological damage, in the medium and long term, in patients; this fact alone is enough not to recommend it. A recent systematic review demonstrated that HOM was the least acceptable among child behavior management techniques used in the dental office, with only 23.5% of parents agreeing with its implementation [16].

Article 18 of the Child and Adolescent Statute [13] deals with the need to protect the dignity of children and adolescents, keeping them safe from any inhuman, violent, terrifying, humiliating, or embarrassing treatment. The arguments presented for the discussion of this article are similar to those presented when discussing Article 9th, item VII, and Article 11, item VIII of the DCE [10], which discuss, respectively, the dignity and disrespect for the patient.

Still, in the civil sphere, some articles of the Consumer Protection Code (Law nº 8,078, of September 11, 1990) must be addressed [14].

> *Art. 6th. The basic consumer rights are:*
>
> *I - The protection of life, health, and safety against risks caused by practices in the supply of products and services considered dangerous or harmful;*
>
> *III - Adequate and clear information about the different products and services, with correct specification of quantity, characteristics, composition, quality, applicable taxes, and price, as well as the risks they present.*
>
> *Art. 39. The supplier of products or services, among other abusive practices, is prohibited from:*
>
> *IV - Take advantage of the consumer's weakness or ignorance, due to factors as their age, health, knowledge, or social condition, to impose products or services on them.*
>
> *Art. 50. The contractual guarantee is complementary to the legal one and will be granted through a written term.*
>
> *Single paragraph. The warranty term or equivalent must be standardized and adequately clarify what the same warranty consists of, as well as the form, term, and place in which it can be exercised and the costs borne by the consumer, and must be delivered, duly completed by the supplier, at the time of supply, accompanied by an instruction manual, installation and use of the product in didactic language, with illustrations.*

In summary, articles 6th, 39, and 50 of the Consumer Protection Code [14] deal with patient and professional relationships. The fulcrum is the need to provide clarifications that guarantee a complete understanding of the patient/family about what will be done and the patient/professional vulnerability relationship. Regarding the elucidation of what will be done and obtaining informed consent for the treatment (in this case, the contractual guarantee according to Article 50), the need for the patient to effectively understand what will be done is undeniable. Here, we reiterate the arguments presented when discussing Article 55 of the DCE [10].

Patients' vulnerability is inversely proportional to their clarification; as understanding increases, vulnerability decreases. New forms of health communication go beyond the limits of oral and written

communication and can collaborate in this sense. Especially in cases with low education or health literacy, using images and videos to explain the treatment plan and the techniques necessary for its execution appears as an important auxiliary strategy to improve patient understanding. Recording pictures and videos in the informed consent form is essential when adopting pictures and videos for due clarification, as it provides greater security to the professional in litigation cases. Therefore, it is up to the professional to ensure that the communication process is as transparent and appropriate as possible, mitigating the patient's vulnerability and thus preventing the occurrence of administrative, civil, and criminal demands.

HOM stood out among the techniques for managing child behavior in dentistry for a long time. Its use was intrinsically related to the surgical-restorative paradigm of dentistry, focused on repairing the damage caused by tooth decay. Technical and scientific advances in dentistry provide a new way of caring for children's oral health, focused on humanizing care, promoting oral health, and using atraumatic and minimal intervention techniques [17]. Furthermore, social changes in the way children are educated and the increase in children's mental health problems, once recognized as social determinants [18], directly impact the condition of oral health and, consequently, how children are cared for in dental offices. Given this, its use does not constitute a reasonable treatment alternative because it puts patient and professional at risk; the former is subject to physical and/or psychological damage, and the latter to ethical and legal problems.

Conclusion

It is clear that, unless better judged, the use of the Hand-Over-Mouth Technique violates the Brazilian Code of Dental Ethics and, at the same time, places the professional who uses it in a borderline situation in relation to the Statute of Children and Adolescents and Consumer Protection Code.

Authors' Contributions

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All authors declare that they contributed to a critical review of intellectual content and approval of the final version to be published.

Financial Support

None.

Conflict of Interest

The authors declare no conflicts of interest.

Data Availability

The data used to support the findings of this study can be made available upon request to the corresponding author.

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