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## CONSTRUCTION OF AN EDUCATIONAL VIDEO ON POSTOPERATIVE CARE FOR CHEILOPLASTY AND PALATOPLASTY

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### ABSTRACT

**Objective:** to describe the process for building up an educational video on the postoperative cares for primary cheiloplasty and palatoplasty surgeries.

**Method:** a five-step technology elaborated development study (analysis and planning, modeling, implementation, evaluation and distribution) conducted in a public institution specialized in treating cleft lip and palate.

**Results:** the evaluation was carried out by six judges regarding content criticism and criteria of familiarity, plausibility and linguistic clarity. Concordance percentage was 98%, which obtained approval and consent from most of the judges participating in the study. The feature adopted after the judges' analysis was qualified as a facilitator of the information needed to train caregivers' skills in the specific postoperative condition, and an additional in procedures related to basic health care in the hospital system. The video was completed with 11 minutes and 50 seconds.

**Conclusion:** the educational video proved to be efficient in its constitution and applicability for preparing parents and other children caregivers who live with the need to learn about the postoperative care of cheiloplasty and palatoplasty surgeries.

**DESCRIPTORS:** Nursing. Nursing education. Cleft lip. Cleft palate. Promoting the health. Educational films and videos. Educational technology.

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# CONSTRUÇÃO DE UM VÍDEO EDUCATIVO SOBRE OS CUIDADOS PÓS-OPERATÓRIOS DE QUEILOPLASTIA E PALATOPLASTIA

## RESUMO

**Objetivo:** descrever o processo de construção de um vídeo educativo sobre os cuidados pós-operatórios das cirurgias primárias de queiloplastia e palatoplastia.

**Método:** estudo de desenvolvimento de tecnologia elaborado em cinco etapas (análise e planejamento, modelagem, implementação, avaliação e distribuição) e realizado em uma instituição pública especializada no tratamento de fissuras labiopalatinas.

**Resultados:** a avaliação foi realizada por seis juízes, quanto à crítica de conteúdo e critérios de familiaridade, plausibilidade e clareza linguística. O percentual de concordância foi de 98%, o qual obteve aprovação e concordância da maioria dos juízes participantes do estudo. O recurso adotado após a análise dos juízes foi qualificado como facilitador das informações necessárias para o treino de habilidades de cuidadores na condição pós-operatória específica, e um adicional nos procedimentos relacionados à atenção básica de saúde no sistema hospitalar. O vídeo foi finalizado com 11 minutos e 50 segundos.

**Conclusão:** o vídeo educativo mostrou-se eficiente na sua constituição e aplicabilidade para preparação de pais e demais cuidadores de crianças que vivenciam a necessidade de aprendizagem sobre os cuidados pós-operatórios de cirurgias de queiloplastia e palatoplastia.

**DESCRIPTORIOS:** Enfermagem. Educação em enfermagem. Fenda labial. Fissura palatina. Promoção da saúde. Filmes e vídeos educativos. Tecnologia educacional.

# ELABORACIÓN DE UN VIDEO EDUCATIVO SOBRE LOS CUIDADOS POST-OPERATORIO DE LAS CIRUGÍAS DE QUEILOPLASTIA Y PALATOPLASTIA

## RESUMEN

**Objetivo:** describir el proceso para elaborar un video educativo sobre los cuidados post-operatorio de las cirugías primarias de queiloplastia y palatoplastia.

**Método:** estudio de desarrollo de tecnología elaborado en cinco etapas (análisis y planificación, modelado, evaluación y distribución), realizado en una institución pública especializada en el tratamiento de fisuras labiopalatinas.

**Resultados:** la evaluación fue llevada a cabo por seis jueces en lo referente a la crítica del contenido y de los criterios de familiaridad, viabilidad y claridad lingüística. El porcentaje de concordancia fue del 98%, valor que obtuvo la aprobación y concordancia de la mayoría de los jueces que participó del estudio. El recurso adoptado después del análisis de los jueces se calificó como facilitador de las informaciones necesarias para capacitar a los cuidadores en cuanto a las habilidades de la condición post-operatoria específica, y es un adicional en los procedimientos relacionados con la atención básica de la salud en el sistema hospitalario. La duración final del video fue de 11 minutos con 50 segundos.

**Conclusión:** el video educativo demostró ser eficiente en su constitución y aplicabilidad para preparar a padres y demás cuidadores de niños que necesitan interiorizarse sobre los cuidados posoperatorios de las cirugías de queiloplastia y palatoplastia.

**DESCRIPTORIOS:** Enfermería. Educación en enfermería. Fisura labial. Fisura palatina. Promoción de la salud. Películas y videos educativos. Tecnología educativa.

## INTRODUCTION

Nowadays, the advancement of information technology enables the creation of activities that contribute to the improvement of several areas, including nursing, enhancing teaching-learning and problem solving strategies.<sup>1</sup> In this context, interactive health education may help to improve patient care by effectively coordinating the dissemination of care advances across all specialties and professions, as well as supporting information and communication actions and resources involving elaborated materials with aiming at offering support for this interaction.<sup>2</sup>

Regarding the available didactic and technological resources, the educational video has a prominent role in disseminating knowledge, being an effective interface for forming critical thinking and health promotion, providing an immediate behavioral change.<sup>3-7</sup> It is an effective, inexpensive, simple and attractive method recommended for the cognitive development of the patients and their caregivers.<sup>8-9</sup>

In the hospital context, individuals with cleft lip and palate, since their first year of life, experience exposure to corrective surgical procedures of facial malformation, causing care demand that requires from the family, especially from their caregiver, unconditional dedication to the patient's rehabilitation treatment. Thus, it is necessary to take a welcoming look at the relative committed to the process, in order to promote strategies that make it possible to improve the efficiency of their actions in dealing with the patient. The quality of directly provided care influences the rehabilitation process. Such being the case, training caregivers for children with cleft lip and palate is a challenge for the nursing staff.<sup>10-12</sup>

Cleft lip and palate are congenital malformations characterized by the most common craniofacial deformities, occurring in the intrauterine life.<sup>13-14</sup>

The rehabilitation process begins with primary plastic surgery of the lip (cheiloplasty) and palate (palatoplasty).<sup>15</sup> These surgeries bring high expectations for the relatives; and even in those with a certain balance and stability pattern, the stress levels rise, usually putting them on alert, which can be minimized if they are given proper guidance.<sup>16-17</sup>

Rehabilitating children with cleft lip and palate should include interdisciplinary care, aiming at biopsychosocial and functional results. In this context, nursing plays a fundamental and essential role in all the rehabilitation phases, acting mainly as a care educator and promoter.<sup>11</sup>

Developing materials to meet the child's needs and preparing parents or caregivers for continuing the treatment at home represents a key communication strategy for contributing with positive experiences, including lower stress and anxiety, that are inherent to the patients and their relatives during the hospitalization, more precisely during the phase involving the surgical procedure.<sup>8-9</sup>

To minimize such contingencies, alternative child care facilitation programs are needed, among which the use of audiovisual communication is highlighted, which has proved to be of a fundamental importance in health education.<sup>18</sup> In this sense, developing an educational video on the postoperative care of primary lip and palate surgeries, as proposed in this paper, may contribute to prevent or minimize problems arising from the surgical procedure, as well as providing support to face the difficulties related to complications in the postoperative period.<sup>10-11</sup>

The question that guided the development of this work was: How to make a quality and accessible language educational video for caregivers of children with cleft lip and palate?

Thus, this study aimed to describe the process of building up an educational video on the postoperative care of primary cheiloplasty and palatoplasty surgeries. It is believed that the use of this educational material will contribute to the health education of patients undergoing cleft lip and palate treatment, in addition to preventing and minimizing complications.

## METHOD

A technology-development descriptive study on the step by step process for the construction of an educational video as a technological resource directed to caregivers of children with cleft lip and palate, submitted to cheiloplasty and palatoplasty surgeries, on postoperative care, and treated at a reference center specialized in craniofacial anomalies. The study was conducted from September 2013 to August 2014.

The construction of the educational video followed the theoretical referential on the steps advocated by Falkembach,<sup>19</sup> following the phases ahead: analysis and planning, modeling, implementation, evaluation and distribution.

In the analysis and planning, the following steps were taken: bibliographic research on the theme, definition of the objectives, content and target audience (scope), as well as planning of the resources required for developing and the available budget, and the expected results.<sup>19</sup> To select the content, it was necessary to initially explore the information from different national and international authors and their practical behaviors, as well as the help of the institution's nurses.

The produced material was submitted through narrative, overlapping demonstrative images, and it obeyed the logical sequence, which presented the care given to children with cleft lip and palate in the postoperative period, including the procedures to be performed regarding the cleaning of the surgical wound, recommendations on food and the necessary care during the postoperative period. Using animation techniques and other digital tools that replaced the use of real people recorded images, the video could be produced and finished with less financial resources, which made the project feasible and made its development more accessible.

The elaboration and organization of the content occurred in the modeling, besides the transformation for the audiovisual language.<sup>19</sup> To materialize the ideas and to serve as the basis for project development, all information was organized into a script so that it could meet the caregivers' expectations and needs.

Through a *storyboard*, a visual tool developed with the frame-by-frame demonstration of the entire video structure in the form of drafts or sketches, it became possible to correctly understand the script and direct the production of the material with all its components.<sup>19</sup>

Upon implementation, the creation and production process of the project took place.<sup>19</sup> All the assembly and finalization of the material was performed from the elements contained in the script and according to the visual descriptions of the *storyboard*. For this, specific *software*, *Adobe After Effects* and *Adobe Premiere*, graphical computer and professional video editing programs where sound and image information is organized, were used, thus assembling the final video structure.

Tests and corrections of content, images, captions, voiceover and grammatical errors, as well as content validation and aesthetics took place in the evaluation and maintenance steps.<sup>19</sup> Validation methods include: content validity, criterion-related validity, and construct validity.<sup>20</sup> Thus, the use of content validation was chosen, which means checking whether the instrument used meets the needs of the research under study.<sup>21</sup>

To test the educational video for content validity, it was decided to use an analysis of the material by evaluators from different areas, which included: nursing, health communication and visual communication. The selection of these evaluators met the following criteria: having ten years or more of experience in their expertise areas or a minimum title of specialist, and mastery of theoretical assumptions and analysis of reliability constructs related to the instrument. Thus, six judges were listed by means of intentional type sampling, two of which were *designers* to evaluate the quality of the script, editing and finalization of the educational video; two health communication specialists for language assessment, that is, whether the information was accessible to the lay population; and two

nurse judges working in the care of children with cleft lip and palate, more precisely in the postoperative cares. The invitation to the judges was made by *e-mail*, and everybody agreed to take part in the study.

The analyzed criteria included: familiarity, plausibility and linguistic clarity. In this study, the use of the Content Validity Index (CVI) was adopted to evaluate the items separately. The CVI aims to measure the proportion or percentage of judges who agree on certain aspects of the instrument and its items.<sup>20</sup> In this analysis, each item was evaluated and scored using the Likert type scale, with a score from one to four, from total disagreement to total agreement.

The index score was calculated by the sum regarding the agreement of the items, scored by three or four by the judges, allowing the identification of the overall score and the classification of suitability of the product, with room for the specialists to justify their answer or to propose suggestions.<sup>20</sup> To verify the validity of new instruments in general, the literature suggests a minimum agreement of 0.80.<sup>22</sup> In addition, to evaluate the material as a whole, the percentage agreement criterion was used, which is obtained by dividing the total number of items considered relevant by the judges by the total number of items. A minimum agreement percentage of 90% was considered.<sup>21</sup>

The evaluation items of the educational video used by the judges were: has easy to understand and comprehend language; uses the visual resources adequately: images and captions; uses the audio resources adequately: voiceover, soundtracks and sound effects; the content was properly distributed; keeps the audience's attention all the time; conveys the proposed teachings; facilitates the memorization of messages; causes the necessary impact to stimulate attitudes; achieves all its goals. The proposed changes considered relevant were incorporated into the instrument. Only at the end of this process, the available video was considered as an educational resource for parents of children with cleft lip and palate in the postoperative situation of cheiloplasty and palatoplasty.

Distribution is the phase of material disclosure or exhibition.<sup>19</sup> After its completion, the educational video was recorded on DVD and submitted to the nursing staff of the postoperative sector in the participating institution so that they could authenticate their guidelines. Subsequently, it was made available to parents and caregivers of children with cleft lip and palate in the postoperative situation of cheiloplasty and palatoplasty.

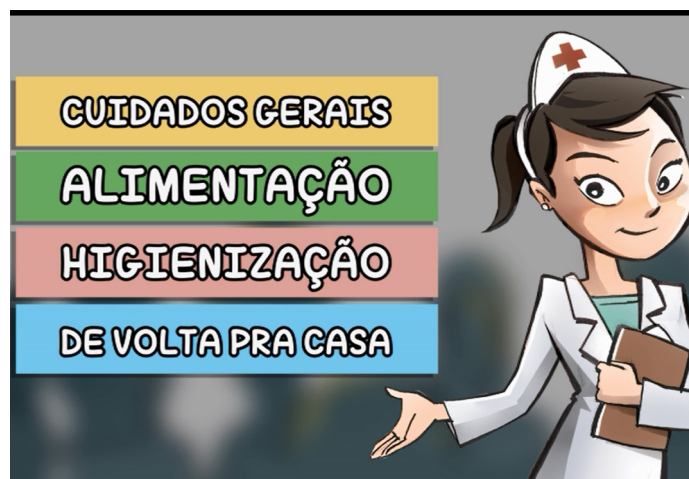
It is emphasized that, for developing this educational video, there was funding support from a funding agency, which enabled to contract a company specialized in creation, programming and final artwork.

## RESULTS

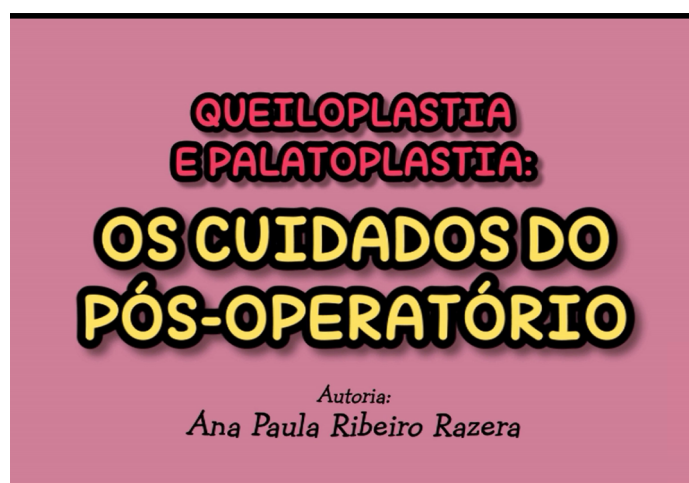
The content of the educational video was organized and made available as follows: introduction with character presentation and summary of the material to be presented; general care related to the child's positioning in the caregiver's lap, permission for sucking fingers and/or pacifiers, placing the child's hand in the mouth, care in the bedroom, toys and games, sun exposure and the period that these cares should be given in the postoperative time; feeding related to the consistency and temperature of the food, most indicated utensils and period for supplying this food in the postoperative period; hygiene and surgical healing related to the removal or not of surgical points, oral and surgical hygiene and daily periodicity for this hygiene; complications at the surgical site such as bleeding, trauma, injuries, breathing difficulties, local infection, fever and pain that may happen at home; behavioral state of the caregiver with the child in the care provided and in the mood resulting from the dedication to the task.

Illustrations were used that could please the caregivers, through relatively simple drawings and animations, conveying the messages in a light and positive manner, with a cheerful and humorous atmosphere, as shown in Figures 1, 2 and 3.





**Figure 1** – Opening screen of the educational video on postoperative care of cheiloplasty and palatoplasty. Bauru, SP, Brazil, 2014



**Figure 2** – Main 2D character: “nurse educator of postoperative cares”. Bauru, SP, Brazil, 2014



**Figure 3** – 2D characters: “caregiver mother” and “child undergoing cheiloplasty”. Bauru, SP, Brazil, 2014

Regarding content validation, six judges took part, with a mean time of training of 26.83 years ( $\pm 9.00$ ) and a mean time of practice in the area of nursing and communication of 23.33 years ( $\pm 6.44$ ). As for the academic qualification, 50% (n=3) had specialization, 17% (n=1) had a master's degree and 33% (n=2) had a doctorate; 83% (n=5) reported having publications in the area of communication, nursing and/or cleft palate. Regarding professional experience, 50% (n=3) reported working in teaching (undergraduate and graduate) and health care, 50% (n=3) worked in nursing care or communication practice.

Regarding the evaluation of items, the CVI refers to language that is easy to understand and comprehend, proper use of audiovisual resources, proper transmission and content distribution, maintenance of audience attention, facilitation of message memorization, promotion of impact to stimulate attitudes and transmission of the proposed objectives obtained approval and agreement from the majority of the judges participating in the study (Table 1). The percentage of agreement was 98%.

**Table 1** – Distribution of judges' assessments of Content Validity Index (CVI). Bauru, SP, Brazil, 2014. (n=6)

Items for evaluating the educative video	CVI*
1. Easy to understand and comprehend language	1.00
2. Adequate use of the audiovisual resources	1.00
3. Proper content transmission and distribution	1.00
4. Maintaining the audience's attention	1.00
5. Facilitation of message memorization	1.00
6. Impact promotion to stimulate attitudes	1.00
7. Transmission of proposed objectives	0.83

\*Content Validity Index (CVI)

During the content validation process, the judges were able to suggest improvements, which were submitted descriptively, including: replacement of technical terms with colloquial terms; grammatical correction; addition of captions according to the speech, reinforcing the memorization of the most relevant items; and, increased number of scenes in relation to surgical cleaning. It is noteworthy that all suggestions regarding the format, exhibition and content of the educational video were accepted.

The video was completed with 11 minutes and 50 seconds, including credits, and within the allotted time for educational videos to keep the audience's attention. Thus, only at the end of this stage, after thorough analysis, the constructed video was considered as an educational resource for caregivers of children with cleft lip and palate in the postoperative situation of cheiloplasty and palatoplasty.

## DISCUSSION

Acting in the rehabilitation process of cleft lip and palate requires proactively involved professionals, seeking access to knowledge that will allow them to consistently and constantly improve the quality of life for the patients.<sup>10</sup> In this sense, the importance of educational materials that favor the implementation of health education programs is evident. These materials have been identified as an important and strategic tool, increasingly frequent in the dissemination of knowledge and practices oriented to prevention and rehabilitation.<sup>11</sup>

Thus, nurses expand their role as educators, not only in carrying out educational interventions, but also in building up and evaluating educational resources in health. Educational technologies play an important role in the health education process, as they facilitate the mediation of learning



contents, and they work as a resource available to patients and caregivers. Thus, clinical experience enables nurses to develop educational and health promotion materials, including the construction of educational videos.<sup>4,11,23</sup>

A study on the promotion regarding ophthalmological health in schoolchildren legitimized the issue of educational video as a potentiator for the teaching-learning process, in conjunction with the interventions of health professionals, implying the early diagnosis of visual impairment and the resolution of other ophthalmological problems.<sup>24</sup> Another study that aimed to elaborate and validate an educational video about the dressing of the central venous catheter proved to be efficient and adequate for training nursing professionals and related areas.<sup>7</sup>

A properly constructed video becomes a powerful tool for effectively supporting understanding and reflection; to do so, it requires information organization.<sup>2,23</sup> Thus, the nurse, as a transformative agent, coordinator and educator for health care, may plan community care, developing resources for communicating information useful in the treatment of cleft lip and palate in an objective and understandable manner, in order to propitiate more success in the rehabilitation.

The need to address such content stems from the fact that it is fundamental for the adherence of parents and caregivers of children with cleft lip and palate to the postoperative care of primary surgeries.<sup>25</sup> For this, it is necessary to understand the dynamics of the relations involved in the teaching-learning process, paying attention to the choice of procedures that can be effectively identified and accepted in their applicability. Health care and handling related information, which represents facilitating resources in adapting the atypical developmental conditions, requires careful consideration of the used resources, which should be sensorially stimulating through different processing routes, including visual and auditory ones. In this sense, the audiovisual resource of educational videos represents a fundamental neurosensorial input for knowledge assimilation and accommodation.<sup>26</sup>

In this study, the educational video content was developed through digital animation resources, using figurative drawings and illustrations, with simple and even minimalist aesthetics, conveying a positive message, aiming to win the sympathy and attention of the caregivers. It is noteworthy that visual and aesthetic communication facilitates multidimensional learning, in addition to effective non-verbal communication.<sup>27</sup>

Thus, in the constructed video, all screens have the same organizational structure, with light color distribution in pastel shades, in order to make the look lighter and more comfortable, transmitting tranquility and security in the care given to children with cleft lip and palate. Excessive use of strong and vibrant colors was avoided in order to increase the visibility of other colors and to make the text more readable, thus reducing eye strain.<sup>5</sup>

Because it is a subjective explanation, built on ideas, concepts and visions of the researchers, the script was very detailed so that the professionals in charge for its production knew exactly how to execute the material. It is in the script that the descriptions of each sound and image elements that are part of the video are contained. In the audio, for example, all the characteristics of the speech were determined, from the text that would be transmitted to the style of the speakers, the tone of voice and the excerpts with male or female voice, simulating the nurse's speech. The correct variation of soundtracks and special effects also served to emphasize or create the right mood for each stage. In the visual conception of the video, all the images that should appear on the screen at each moment of the speech were determined, as well as the texts and captions that would be used to reinforce the main information, facilitating understanding and increasing the recall capacity of the transmitted teachings.<sup>5,24</sup>

For the soundtrack, quiet songs were chosen to facilitate communication of the characters with the viewer, making care more humanized. Music reduces pain, stress and anxiety, as well as promoting comfort, muscle relaxation and dignity to hospitalized people.<sup>28</sup>

To properly convey the messages and emphasize the key information needed by caregivers, the video was built up with the precaution of it not being too long, which could make it tiresome. Corroborating the pertinent literature, about 10 minutes long, the video kept the attention of the target audience throughout its exhibition.<sup>5,24</sup>

The items evaluated in the video by the judges, referring to language that is easy to understand and comprehend, proper use of audiovisual resources such as images, captions, voiceover, soundtracks and sound effects, proper content transmission and distribution, maintenance of audience attention, facilitation for memorization of messages and promotion of impact to stimulate attitudes, obtained approval and agreement consistent with the literature.<sup>21</sup>

Six judges took part in the process for evaluating the educational video who fully complied with the recommendations mentioned in the literature as selection criteria, including professional experience in the area and having the following specialization: *Latu* or *Stricto Sensu*.<sup>29</sup>

Finally, it is considered that this study provided evidence on the effectiveness of building up an educational video on postoperative care of cheiloplasty and palatoplasty surgeries. Thus, teaching of this content should provide caregivers of children with cleft lip and palate with a better level of information, development of skills and competences, and assertive attitudes towards the care given to these children in a recovery phase. Using facilitating strategies, by implementing audiovisual resources, in basic health care for patients and their caregivers by nursing teams, can make all the difference towards the humanization of surgical treatment.<sup>18</sup>

The constructed educational video, therefore, was rated by the evaluators as a facilitating tool for disseminating information that is necessary for preparing parents and caregivers of children who experience specific postoperative conditions. In addition to preparing caregivers for appropriate postoperative cares, expectations regarding the use of this educational material also aim to favor more integration among high-complexity services (where surgical repair of the cleft lip and palate occurs) and basic care services in the origin cities of the patients, parents and caregivers.

The fact that the educational material was not evaluated by the caregivers of children with cleft lip and palate can be considered a limitation of this study, thus not allowing to generalize the results. However, it is emphasized that the developed tool may favor the understanding on postoperative care of cheiloplasty and palatoplasty surgeries, which will certainly contribute to the rehabilitation process of these children.

## CONCLUSION

The construction of the educational video aimed to develop a tool to raise awareness and train caregivers of children with cleft lip and palate who underwent cheiloplasty and palatoplasty surgeries on postoperative care, in order to ensure the continuity of quality care after hospital discharge, minimizing complications and promoting the rehabilitation process. Using this audiovisual resource may be extended to nursing professionals and related areas, including those in connection to telenursing, classes, training and improvements related to postoperative care of cheiloplasty and palatoplasty.

Thus, it can be concluded that the developed material has a language that is easy to understand and comprehend, makes proper use of audiovisual resources, allows the proper transmission and distribution of content, favors the maintenance of audience attention and the memorization of messages, as well as it has potential to stimulate appropriate attitudes of caregivers for postoperative care of cheiloplasty and palatoplasty surgeries.

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## NOTES

### CONTRIBUTION OF AUTHORSHIP

Study desing: Razera APR, Tabaquim MLM.

Data collection: Razera APR.

Analysis and interpretation of data: Razera APR, Mondini CCSD, Cintra FMRN.

Discussion of the results: Razera APR, Trettene AS, Razera FPM.

Writing and/or critical review of content: Razera APR, Tabaquim MLM.

Review and final approval of the final version: Razera APR, Tabaquim MLM.

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### APPROVAL OF RESEARCH ETHICS COMMITTEE

This study received a favorable opinion from the Research Ethics Committee of the institution Opinion No. 190.581., *Certificado de Apresentação para Apreciação Ética* No. 09750212.8.0000.5441

### CONFLICT OF INTERESTS

There is no conflict of interest.

### HISTORICAL

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