






Contributions of a smoking prevention project in the education of medical students: qualitative research

Contribuições de um projeto de prevenção ao tabagismo na formação de estudantes de medicina: estudo qualitativo

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ABSTRACT

Introduction: Smoking is considered a pediatric disease, because most smokers used their first cigarette or became addicted before 18 years old. For this reason, Education Against Tobacco (EAT), a multinational network of student-initiated extracurricular volunteer community project formed by medical students, works to reduce smoking among adolescents between 12 and 17 years old. The EAT unit at Federal University of Lavras (EAT-UFLA), Minas Gerais, in Brazil, is currently one of the most active EAT units. **Objectives:** To understand the experiences lived by the volunteers at EAT-UFLA, considering the impact of community engagement project on medical training. **Methods:** This is an exploratory-descriptive qualitative study, involving medical students and recent graduates who participated in the EAT-UFLA for at least one year. Data were collected through semi-structured interviews and explored through thematic content analysis. **Result:** The participants of the EAT-UFLA community project tend to be more concerned about the approach to smoking patients; they were able to learn about the different smoking instruments, to improve communication skills and to experience different social realities, which provided significant personal enrichment. **Conclusion:** The volunteer community project EAT provided positive experiences in the critical perception of different human realities, as well as allowed the students to develop many multiple competences. Future studies are needed to provide quantitative elucidation of EAT effects on clinical and communicative medical students skills improvement.

Keywords: Medical education; Professional training; Smoking prevention; Community-institutional relations; Adolescent health.

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Responsible Editor:

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Conflict of interest:

None.

Ethics Committee:

Opinion Number - 4.641.403.
CAAE: 44037121.0.0000.5148.

Received on: June 25, 2022.

Approved on: August 05, 2023.

Publication Date: March 07, 2024.

DOI: 10.5935/2238-3182.2022e33119-en

RESUMO

Introdução: O tabagismo é considerado uma doença pediátrica, tendo em vista que a maioria dos fumantes usou o primeiro cigarro ou se viciou antes dos 18 anos de idade. Por isso, o *Education Against Tobacco* (EAT), uma rede multinacional de atividade de extensão formada por estudantes de medicina, age no combate do tabagismo entre adolescentes de 12 a 17 anos. A unidade do EAT na Universidade Federal de Lavras (EAT-UFLA), Minas Gerais, Brasil, é uma das mais ativas. **Objetivos:** Compreender as experiências vividas pelos extensionistas do EAT-UFLA, ponderando o impacto dessa extensão na formação médica. **Métodos:** Trata-se de um estudo qualitativo exploratório-descritivo, envolvendo acadêmicos de medicina e recém-formados que participaram do EAT-UFLA por, no mínimo, um ano. Os dados foram coletados por meio de entrevistas semiestruturadas e explorados pela análise de conteúdo temática. **Resultados:** Os participantes da extensão EAT-UFLA tendem a ter maior preocupação na abordagem ao paciente tabagista; bem como puderam aprender sobre os diferentes instrumentos tabágicos; repararam habilidades comunicacionais e vivenciaram realidades sociais díspares, as quais proporcionaram significativo enriquecimento pessoal. **Conclusão:** A extensão EAT oportunizou vivências positivas na percepção crítica das distintas realidades humanas, assim como permitiu o desenvolvimento de competências diversas em seus extensionistas. Futuros estudos são inescusáveis para a elucidação quantitativa dos efeitos do EAT sob o aprimoramento de habilidades clínicas e comunicacionais em estudantes de medicina.

Palavras-chave: Educação médica; Capacitação profissional; Educação antitabagismo; Relações comunidade-instituição; Saúde do adolescente.

INTRODUCTION

Smoking is considered a pediatric disease, once most smokers used their first cigarette or became addicted before 18 years old. In Brazil, 18.4% of students in elementary school last year have already tried tobacco products¹. The country is still among the ten countries with the largest smoking population².

In this context, Education Against Tobacco (EAT) - a multinational university volunteers community engagement network, formed by medical students, acts to combat smoking in the school environment among adolescents from 12 to 17 years old, age group with highest rate of tobacco experimentation^{3,4}.

In Brazil, the EAT Brazil community project is established in more than 40 medical schools, and the EAT UFLA is one of its most active groups^{5,3}. According to Lisboa et al. (2019)⁶, about 667 young Brazilians per year either stopped smoking or did not start smoking due to EAT-Brasil actions.

Community engagement projects such as those foster professional training aimed at society, being a path to academic practices that link the University, in its teaching and research actions, to the population demand⁷. The advantages for volunteers can be numerous, such as: comprehension about community reality in which the university is inserted; provision of services and assistance to society; provision of subsidies for curriculum improvement and new courses creation; national problems understanding and search of plausible solutions⁸.

Furthermore, the relevance of student-initiated extracurricular volunteer community project such as those is pointed out by Brazil's Ministry of Education (MEC) new determination, set out in Resolution 7/2018, chapter one, article 4, which establishes that extracurricular activities must be at least 10% of undergraduate courses total workload, which should be part of the curriculum. It is understood, therefore, that the community project provides a work simulation to be done by the student after graduation, which helps them to choose a professional specialization and

supports them in to improve technical skills which can only be refined in practice⁹.

According to Andrade et al. (2019)¹⁰, community projects infers critical-reflective processes that involve the integration of knowledge acquired at the university with the experiences lived and observed by students. Therefore, it encourages the development of world awareness and induces greater student engagement. In this process, affective, behavioral and cognitive dimensions are exercised simultaneously and configure, in general, an effective method of learning.

Although there are studies addressing the relevance of Education Against Tobacco in combating smoking among adolescents, the current literature is scarce about the benefits that these actions bring to volunteers, possibly helping them to enrich their profession. Thus, this study innovates by looking at the medical students who comprise the EAT-Brazil university volunteer project. The objective of this research is, therefore, to analyze, qualitatively, the experiences lived by the EAT-UFLA volunteers, in order to consider the new knowledge and skills acquired by medical students.

METHODS

This is exploratory-descriptive qualitative research that aims to account the feelings and knowledge obtained from medical undergraduates and newly graduated physicians experiences, who participated in the volunteer project EAT-UFLA, developed in Lavras city – Minas Gerais, Brazil.

Inclusion criteria were medical students enrolled at UFLA – Federal University of Lavras – and recently graduated ex-medical students at UFLA who participate/have participated in the EAT-UFLA at least one year. The survey was carried out regardless of the sample size. The research was concluded when information repetition was collected, causing data saturation¹¹.

Data was collected in April 2021 through semistructured interview technique and recorded through Zoom, with an average duration of 7.7 minutes each.

SEMI-STRUCTURED INTERVIEW:

- 1) What was your biggest learning experience with EAT-UFLA?
- 2) Do you think EAT-UFLA has influenced in any way your ability to communicate in public? If yes, how?
- 3) Do you think you witnessed different realities during the EAT-UFLA interventions in schools? If yes, what is your perception?
- 4) Do you think that EAT-UFLA left legacies for your academic formation or for you as a human being? If so, what would be these legacies?
- 5) Would you like to add something we didn't ask?

For sample selection, the intentional selection strategy was used, considering the limited number of EAT-UFLA total participants. The interviews were transcribed using Reshape (free version). All participants agreed to the

electronic Informed Consent Form (e-TCLE), sent via Zoom, before starting the interview, through Google Forms.

Data analysis was based on of thematic categories proposal, which consists in ordering, coding, classifying, and final analysis of the information. Discussed by Braun and Clarke (2014)¹², thematic analysis allows a standardized view of data collected in qualitative research. Through the definition of themes that are repeated, it is possible to establish a more precise method to reduce and strategically analyze qualitative data, in order to trace the topics inherent to the research objective and allow the analysis of the content observed^{12,13}.

For Bardin (2016)¹⁴, content analysis consists of a methodological set instruments that are applied to discourses. In the initial phase of this method, the material must be organized and, then, the coding and categorization process begins, which allows the data collection be organized according to the different topics covered and its common characteristics. For the analysis of the discourse itself, the researcher must delve into his research object and assume the subject mode, in order to reconstruct the ideas obtained exclusively through language¹³.

After systematized thematic analysis of the contents gathered in this research, four thematic categories were identified. They are: improvement of knowledge on smoking; communication skills development; contributions to medical students' professional and personal training; interaction and perception of different realities.

The study was approved by the Ethics Committee for Research with Humans of Federal University of Lavras (CAAE: 44037121.0.0000.5148; Opinion number: 4.641.403, in compliance with Resolution 466/2012 of the Ministry of Health's National Health Council, which provides guidelines and regulatory standards for research involving humans¹⁵.

RESULTS AND DISCUSSION

Ten medical students and one newly graduated participant were interviewed, totaling eleven respondents, eight females and three males, aged 20 to 26 years, with a mean age of 22.9 years (Table 1).

IMPROVING KNOWLEDGE ON SMOKING

Smoking initiation prevention is essential for public tobacco control policies¹⁶. According to an analysis of the Brazilian study ERICA (2016)^{17,18} published in 2016, among the 74,589 teenagers aged 12 to 17 years, 18.5% of them had already smoked at least once. In contrast, another study carried out with 566 medical students from University of São Paulo Medical School¹⁸, revealed that only 37% participants understood the importance of educational materials against smoking. Considering that the EAT's main pillar is the promotion of health education against smoking among adolescents, this research explores the relevance of the EAT-UFLA branch as a medical education instrument.

Tabela 1. Caracterização dos participantes do estudo.

Entrevistado(a)	Idade (anos)	Gênero*	Período no curso de medicina	Anos de participação no EAT-UFLA	nº de intervenções EAT-UFLA
1	23	F	8	2,5	3-5
2	26	M	8	1,5	> 10
3	24	F	8	2,5	6-10
4	22	F	10	1,0	> 10
5	23	F	8	1,5	> 10
6	20	F	6	1,5	6-10
7	22	M	6	1,5	> 10
8	23	M	5	1,0	6-10
9	23	F	5	2,0	6-10
10	22	F	7	1,0	6-10
11	24	F	Recém-formada	1,0	3-5

Legenda: *F = Feminino; M = Masculino.

In this hiatus, seven of the eleven respondents mentioned having gained new knowledge about tobacco and five of these revealed that the main learning acquired with EAT was in relation to better smoking understanding and its implications:

“I was able to learn more about smoking and about other drugs (...) it was possible to research more about the subject and learn more about the effects.”
E.6.2021

Furthermore, most of the people that have been interviewed reported having learned more about new tobacco-derived products. Technical-scientific progress has allowed the development of technologies in the tobacco industry sphere, which tend to be more attractive to young people. The emergence of electronic products, such as e-cigarettes and vapes, as well as the development of menthol cigarettes¹⁹ require the training of health professionals in understanding these goods and how to combat their dissemination among adolescents.

“My biggest learning experience with EAT was to be able to know about the harmful effects of different cigarette types.” E.11.2021

The brain development, that is typical for this age group, makes them more able to be addicted to nicotine, the tobacco's main component, and they tend to maintain the tobacco addiction throughout adult life and have more difficulty during the smoking cessation process²⁰. It is suggested, with this study, that the EAT-UFLA extracurricular project brings positive results not only for the medical students involved, but also long-term results for the local community, fulfilling the main objectives of a community engagement project:

“The EAT plays this role of giving information to young people, adolescents, especially influencing this age group, which is essential, it is essential, so that people do not start smoking. And I think that EAT helps a lot and reduces a lot the rates of new smokers among teenagers, because it makes them think

more about this issue and to know more about this subject.” E.6.2021

The aforementioned speech is in accordance with the results found by the Agency for Healthcare Research and Quality (2020)²¹, that more research is needed to determine effective methods of prevention and smoking cessation in adolescents. Encouraging the approach of juvenile smoking within the future physicians academic sphere is essential in this regard, and the student-initiated extracurricular volunteer community project, like EAT-UFLA, are tools for medical education.

COMMUNICATION SKILLS DEVELOPMENT

Communication skills improvement has been related in the literature, as an intrinsic component of humanized care, being relevant to the achievement of expected health outcomes, improvement of the doctor-patient relationship and even increasing adherence to treatment and patient satisfaction²².

Thus, one of the points most emphasized by the interviewees was the loss of shyness when communicating with the patient and when speaking in public, as seen in the example below:

“My biggest learning experience was that, through the project, I was able to improve my communication skills in public, which is very important, including in our future professional practice.” E.6.2021

That it is not just about putting into practice the academic knowledge previously conceived in training and classes on smoking, since during the activities provided by the EAT, in general, the student can extrapolate this knowledge and develop the creativity to deal with the differences observed in practice. So, medical students must develop skills to handle an unforeseen circumstance, according to the demand of the local, social and cultural reality they meet during the community project interventions and quickly adapt to them^{23,24}.

“My greatest learning experience with EAT was certainly in the matter of taking a stand when speaking, it is a very big challenge to be able to convey what we want to speak to teenagers, making them listen to me (...) For example, when we are explaining what cigarettes can do to the body and we, in medicine mainly, there are already several names... technical terms in our minds, such as vasoconstriction... and then we adapt it in a way that teenagers can understand and teach to other people.” E.4.2021

“In the interventions themselves (...) as in that part when we say it causes vasoconstriction and then explain that it reduces the caliber of the vessels... then you explain it by drawings. The part that smoking also affects the elastic fibers and then we use a way of explaining it with those ‘little gums’, ‘gums’ of hair. So I think they’re more playful ways to explain, especially to the teenage audience... in a way that they can understand and absorb the message you’re giving.” E.6.2021

Thus, studies have shown that the medical professional satisfaction is directly correlated with the social skills development, such as communication and empathy. It is noteworthy that this personal satisfaction is linked to professional success. Therefore, if a physician manages to interact satisfactorily with the patient, then the professional tends to have more success in their clinical practice, with more people adhering to the treatment proposed and they will tend to have greater identification with this profession.

Henriques (2016)²⁵ highlights the relevance of communicational development processes in the creation of new links between the population and academia, as well as in the community ties generation. These factors result in a public and more popular character of student-initiated extracurricular volunteer community projects.

CONTRIBUTION TO PROFESSIONAL AND PERSONAL TRAINING OF MEDICAL STUDENTS

Studies show that student-initiated extracurricular projects are understood as a fundamental academic praxis for a professional citizen formation and have been gaining more and more space in colleges²⁶.

Respondents reiterate that the EAT-UFLA helped them in professional training and medical practice. It is believed that the EAT activities facilitate the filling of small gaps left in the university curriculum regarding the methodologies of anti-smoking action and in relation to the adolescents care²⁷:

“As our family and community medical service didn’t serve this [younger] audience that much, it was more about older people, so it was something I hadn’t practiced yet... so [it was] something that made a big

difference to me... to really know how to approach the use of words [with the young audience].” E.7.2021

“[EAT-UFLA’s] script teaches you a lot too, about cigarettes, about some ways to encourage people to stop smoking. This is something we don’t have... in college, right? (...) There was so much learning to go to schools, to speak to the public with whom we are not dealing with in college, right? Secondary and elementary school audiences.” E.10.2021

Hence, it is observed that the EAT-UFLA volunteer community project created new opportunities for academics to deal more frequently with the adolescent audience. After all, it is common that during medical graduation, there are few or rare clinical situations with patients in this age group, compared to the adults care during the internships²⁸. Thus, there is a certain gain, for the EAT volunteers, of specific medical practicability for the adolescent people. Teenagers caring, regarding the hebiatrician*, requires distinct and accurate skills to maintain the youth’s engagement in the proposed health scheme. It is necessary not only to reorganize the technical jargon, but to approach the language used by this audience in a dynamic and attractive way. One must be aware of the young person’s emotions, gestures, voice tone and facial expression, going beyond medical terminology and strict anamnesis scripts^{28,29}.

These factors are in line with the competencies recommended by the World Health Organization for adolescent health³⁰. According to this, physicians and other professionals must establish effective interpersonal communications with these individuals, as well as knowing how to understand their mentality and their concerns. These are, therefore, skills valued to respect the adolescents’ autonomy and to ensure correct clinical support and preventive health strategies implementation.

“It was more of a contact with teenagers, and it turns out that I don’t have that much contact with teenagers... and noticing their language... which catches their attention... I realized that it must be dynamic things.” E.1.2021

“We learn that it is very individual, each teenager will act in a different way.” E.9.2021

The lines presented above correspond to the ideas of Blum and Dick (2013)³¹. According to these authors, each teenager is unique and has its own individual facets and needs. In general, they are human beings considered vulnerable and that suffer intense influence from the environment in which they live. Furthermore, the same individual can also present singular, non-linear, and asynchronous psychosocial changes during this transitional phase between childhood and adulthood. In the view of this heterogeneity, the hypothesis is raised that the immersion of the EAT-UFLA students, in

* In Brazil, the hebiatrician is a doctor specialized on the care of teenagers.

the context of the adolescents' experience, raises additional personal and professional gains.

In addition to smoking, other harmful practices such as the use of drugs and alcohol must be constantly discouraged by health professionals since there is a strong association with contemporary global morbidity and mortality rates. However, as acknowledged by Hauer et al.³², there is a certain concern that undergraduate curricula do not effectively prepare health professionals regarding the applicability of behavioral counseling, especially when dealing with adolescents. In order to understand the experience lived by the EAT-UFLA volunteers, it was observed, in the present study, that they developed a greater concern with the smoker patient and, equally, in how to approach them in relation to the need and desire to stop smoking addiction.

"Nowadays, I know how to approach a 12,13-year old teenager better and consider that if he may be smoking, he may also be using heavier drugs and this caught my attention, I would take it before... I would consider it, but far less than I consider today."
E.2.2021

"I think it helped me with the care itself, you know? When I see a patient who is a smoker, I think it's easier now to explain to him, what are the... the consequences that tobacco can bring to this person and I think I can understand them better too, right?"
E.3.2021

Finally, dynamic teaching methods that involve cognitive and behavioral improvements in medical students seem to be useful strategies in association with traditional curriculum practices³³. In this sense, research aimed at medical education is fundamental, as it can support the development of new methodologies, both for teaching and learning. Thus, the EAT-UFLA student-initiated extracurricular project aims to stimulate and widen the view of their participants about different political-social-human spheres, which contributes to their academic and professional training.

INTERACTION AND PERCEPTION OF DIFFERENT REALITIES

In the EAT-UFLA community project, beyond facing the different people and their differences, the medical student must also deal proactively with them and work on solving common problems. In this, without a doubt, lies the possibility of training professionals with a broad view of the world and with a more critical bias²⁵. "A rich experience that encourages learning gives immediate meaning to theoretical reflections and the acquisition of techniques", says Henriques (2016, p. 2)²⁵. Thus, the results show that, by integrating this community project educational activities, there is an opportunity to acquire greater sensitivity to social issues found throughout the EAT interventions. When faced with realities so different from those of the student, the extension worker has the chance to develop greater empathy.

"I have a memory of a student [adolescent] who was very interested [in the EAT-UFLA's educational action] (...) and he smoked. He was probably about 13 years old, and he used to say that he smoked, because he felt less hungry [when he smoked] ... because there was not so much food at his house and so on. And I think that was very remarkable because it's a very different reality, right? This contributes to our more humanitarian vision and even for us to be more empathetic with people." E.5.2021

This reveals how EAT actions can be capable of polishing the responsibility and social commitment of the participant regarding uncertainties and difficulties faced by society^{24,33,34}. Therefore, it is clear that the EAT-UFLA action boosted greater reflections on existing social inequalities and possible improvements through health education. There were, in total, fifteen mentions of these aspects:

"I think there is a huge difference according to the social classes of the public we served, right? Regarding the type of information they received, you end up seeing children [teenagers] who are the same age, but when they have different social classes, we see that they have different access to information. So, sometimes, when we went to serve a public that had a higher social class, it was noticeable that they had much more information about the issues we were addressing than in relation to other children [teenagers] (...) I was impressed. Once, at a private school I had gone to, when we were doing an intervention [EAT-UFLA educational action], we were explaining, right, about the lung function and one of the children even knew what [alveolar] collapsing was. I was pretty shocked by that, because I only learned it when at college." E.3.2021

"Mainly, the reality is different from mine, right? We are at a university, whether we like it or not, it is a privilege, and we dealt with people who, sometimes, we talked to them about the future, about their careers and they had no prospects like that... This showed me how unequal it really is, and they are opposite realities, right?" E.10.2021

The social interaction that arises from the EAT educational activities also gives birth to, in addition to the aforementioned personal growth, the professional development, as the contact with distinct realities of community expands the possibilities for professional performance. After all, medical practice is articulated and contextualized with the real demands of society. Facing opposite realities promotes the ability to formulate questions, problems, and theories, since acting directly on the complexities of communities requires both understanding and empathy on the part of volunteers²⁴.

Another characteristic addressed by discourse analysis is the role of the EAT community project in local society.

According to Santos (2016)²⁴, community engagement projects allow the democratization of academic knowledge. This is well portrayed in this volunteer community project, as its role is to share the knowledge obtained in the university environment with teenagers and people not used to the academic environment, which uses robust technical terms.

“I believe that the volunteer community project, the EAT, helped me a lot to have a closer contact with the community and spread the knowledge that we learn in academic life for a population that often would not have access to this knowledge if it were not by the community project interventions.” E.6.2021

In addition, democratization is a two-way benefit, because, at the same time that volunteers teach, they also learn from this process - this is the well-known exchange between academic and popular knowledge. This is the true function of all volunteer projects and popular projects (or should be), in order to understand the wishes and teachings of the public served³⁴.

As such, it is clear that the experiences of the EAT-UFLA volunteers go beyond the welfarist and mechanistic view of medicine, proposed by the biomedical model. This new vision, contrary to the Flexnerian model, is an ally of the subjects that belong to the subordinate, less favored classes, and also of the logic advocated by the UFLA medical course, which is focused on the biopsychosocial model of practicing medicine³⁵. In this context, community engagement projects are reflected as an important way to overcome social inequalities²⁶, because “the volunteers go beyond the demands of merely technical training, in favor of a citizen and more humane training” (Barbosa et al., 2020, p. 538)²⁶.

Finally, among the limitations found in carrying out this study, the self-report instruments in general stand out. This method may be associated with an overvaluation of one's own lived experiences, since it is launched in a subjective way, subject to the respondents' social desirability. The intentional selection method of participants can configure a bias, however, all EAT-UFLA participants were interviewed, which, coincidentally, was when the saturation of responses was reached. Therefore, in order to remove confirmation biases, this research carried out data collection through a semi-structured script, which was open to the inclusion of new ideas by the interviewees; that is, going beyond a fixed script, the aim was to provide an approach based on the opening of dialogue established by the interviewee. Despite limitations that prevent the generalization of the information presented and, even though the sample was restricted and qualitative, it is reiterated that this research opens perspectives for future studies that indicate the real possibility of academic gain for volunteers at the EAT-Brasil.

CONCLUSION

The present study points out that the actions developed by the EAT-UFLA student-initiated project Lavras city,

Minas Gerais, favored, to its participants, the development of communication skills, such as shyness loss when dealing with patients and when speaking in public; improvement in the properness of technical language for non-experts; increased interaction with the community - especially with teenagers; improvement of knowledge about tobacco and its smoking instruments, in addition to predisposing to greater sensitivity and critical perception regarding the social differences observed during the community project educational activities.

Authors such as Locke e Hume (2010)³⁶ defended the empiricist view of science and affirmed that sensitive experience is a source for human ideas acquisition. We start, therefore, from the assumption that it is possible to develop new hypotheses based on observation and logical induction. It is reality-based and aims to suggest the probability that certain singular events can also be applied to the whole. In short, although it is not possible to universalize the hypotheses acquired, it is highlighted that research based on inductive logic, such as the present study, is also essential to the science progress, especially in terms of innovative ideas.

In this point of view, the EAT's educational actions can positively impact the academic and personal training of its volunteers, considering the achievements in the field of communication with adolescents, unique socioeconomic realities' perception and the improvement of dealing with smokers. The EAT-UFLA proposes a socializing character as an extracurricular community project, starting from the academic elaboration to the incorporation and emancipatory construction of the subjects involved in the community project actions, as well as those assisted in the community.

AUTHORS' COLLABORATION

We describe contributions to the papers using the taxonomy (CRediT) provided above: Conceptualization, Data curation Formal Analysis, Investigation, Methodology, Project administration, Visualization & Writing – review & editing: Daiana Carolina Godoy. Conceptualization, Data curation Formal Analysis, Investigation, Methodology, Visualization & Writing – review & editing: Gabriela Campbell Rocha. Conceptualization, Data curation Formal Analysis & Writing – review & editing: Breno Bernardes-Souza. Conceptualization, Data curation Formal Analysis & Writing – review & editing: Titus Josef Brinker. Conceptualization, Methodology, & Writing – review & editing: Author Vitor Luis Tenório Mati.

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