Textual-Interactive Perspective and Plurisemioticity: discussion about reach and limit based on a bibliometric study /

Perspectiva Textual-Interativa e Plurissemioticidade: discussão sobre alcance e limite com base em um estudo bibliométrico

Clemilton Lopes Pinheiro*
http://orcid.org/0000-0003-4285-9932

Mateus Parducci Soares de Lima**
Federal University of Rio Grande do Norte, Master student in Language Studies. 
http://orcid.org/0000-0001-9662-2493

Como citar este artigo: 

ABSTRACT
The Textual-Interactive Perspective (PTI) is a theoretical approach designed, initially, to explain spoken text phenomena. After it is designed to explain written text phenomena and, more recently, it has also been used to support studies on the plurisemiotic text (notably the text that mobilizes verbal and image elements). This work aims to reflect on this latest expansion of the PTI. For this purpose, we carried out a brief bibliometric study of dissertations and theses produced in Postgraduate Programs in Letters/Linguistics, in Brazil. We examined the mobilization of PTI principles and categories in the study of plurisemiotic text, with a view of the reflection on the theoretical coherence of this task. We found that the theme "PTI and plurisemioticity" is little explored in Brazil, and that there is a lack of theoretical formalization for the coherent use of PTI’s analytical categories and procedures in the study of plurisemiotic text.

KEYWORDS: Plurisemioticity; Textual-Interactive Perspective; Text

RESUMO
A Perspectiva Textual-Interativa (PTI) é uma abordagem teórica pensada, inicialmente, para explicar fenômenos do texto falado, depois para fenômenos do texto escrito e, mais recentemente, tem sido utilizada para fundamentar também estudos sobre o texto plurissemiotico (notadamente o texto que mobiliza elementos verbais e imagéticos). Este trabalho tem por objetivo refletir sobre esta última ampliação da PTI. Para tanto, realizamos um breve estudo

* clemilton.pinheiro@ufrn.br

** matt.sp2000@hotmail.com

http://dx.doi.org/10.35572/rlr.v11i3.2517
1 Introduction

The Textual-Interactive Perspective (PTI) is a theoretical approach developed by the researchers of the Textual-Interactive Organization Group of the Spoken Portuguese Grammar Project (PGPF) to support the analysis of spoken text. It was later expanded to written text as well. Textual analysis under PTI works with text-interactive strategies, conceived as regularities of textual construction processes.

In the Brazilian context of text studies, PTI has also been as theoretical support to substantiate textual-interactive processes of plurisemiotic texts, that is language events that mobilize verbal and visual signs. Then we had the intent of observing, from the theoretical point of view, the analysis of these language events (plurisemiotic texts) and verify the type of reconfiguration of concepts such as "textual strategy", "textual segment", "referent", "linearity", because they originally based on an event of essentially verbal nature.

In parallel, we intend to trace a bibliometric profile of the Brazilian studies that explore the plurisemioticity under PTI, to identify its field of influence in the country. Bibliometric studies were initially used to support library management, as a means of evaluating the circulation of books, but later began to measure scientific production to provide data on the state of the art and the evolution of science, technology, and knowledge. A bibliometric study, in this sense, provides a picture of the themes, content and structure of research in a field of knowledge (ECK, 2011).

We propose, therefore, a theoretical work of knowledge synthesis, which goes beyond a literature review (or bibliographic review). Since we carry out a critical examination leading to a synthesis, we are ultimately reflecting on the scope and limits of the application of PTI to the analysis of plurisemiotic texts, and, consequently, contributing to the fostering of language studies from a social interactional perspective.
2 Textual-Interactive Perspective: background

PTI was conceived to meet a demand from the Textual-Interactive Organization Group of the Project on Grammar of Spoken Portuguese (PGPF) (CASTILHO, 2006). The PTI cut off the verbal interaction as an observable language datum and identifies in this datum a linguistic performance system (constituted by phonological, morphosyntactic and textual subsystems). In this context, the text was postulated as the object of study, understood as a subsystem of linguistic performance. Consequently, it is possible to identify the indications about the functioning of this performance system based on the data present in the text (JUBRAN, 2006).

Based on the postulation of this linguistic performance system, in which linguistic structures and their processing forms integrate an ensemble, the textual-interactive approach then conceives the text as a phenomenon that is simultaneously structured and emergent. From this, the pragmatic-situational data are inserted in the text, so the function interactional is inherent to the linguistic organization.

In this sense, the pragmatic data are not seen as a frame within which the linguistic exchange takes place, or as a layer of enunciation that concern the utterances. The communicative conditions that sustain the verbal action are inscribed on the textual surface, so that one can observe the marks of the formulative-interactional process in the linguistic materiality of the text. (JUBRAN, 2006, p. 29).

The marks of the formulative-interactional processing, observed in the linguistic materiality of the texts, are understood as leads indicating the processes of textual construction. These leads allow the study of the regularities of textual construction processes, the recurrence of these regularities in certain contexts, the formal marks that particularize them, and the textual-interactive functions they perform.

In summary, PTI proposes that the analysis of text construction be integrated with interactional factors, which give it existence and show themselves in their own constitution. The first analyses, undertaken by the members of the Group themselves, identified three orders of facts. The first facts are the hesitation and interruption, intrinsic phenomena of orality. These phenomena are not textual construction strategies, because they are essentially indices of the on-line speech activity. The second order of facts are the strategies itself of textual construction. The strategies of textual construction are repetition, correction, paraphrase, parenthesis, thematization and rematization, and referencing (topical and meta discursive).

http://dx.doi.org/10.35572/rlr.v11i3.2517
Besides particularizing these processes of textual construction, PTI defined a unit of analysis of textual-interactive, consistent with the theoretical perspective adopted. Observing the corpus, it emerged that, in a communicative event, the interlocutors seek to articulate their discourse, keeping it around a theme, projected as a focus at one point of text. From this, the Discourse Topic (TD) is the analytical category to delimit textual segments, whose elements integrate a relevant and punctual set of referents at one point in the text. The processes of textual construction were particularized, therefore, in the context of these topic segments.

The third order of facts concerns the mechanisms of textual organization. In this field, one type of mechanism is the discourse markers, that is, verbal mechanisms, "that signal textual articulations and interpersonal relations, with functional focus on one or another of these aspects. These aspects particularize two large subgroups of discourse markers: the basically sequential and the basically interactional ones" (RISSO; OLIVEIRA e SILVA; URBANO, 2006, p. 424).

In the context of PGPF, the interactional process is closely linked to the inherent contingencies of the spoken text. The construction processes envisaged and analyzed result from the relationship between verbal planning and linguistic realization, and the most featured interactional factors are those specific to the textual coproduction in the status nascendi of the text. One might, in this sense, get the impression that the principle according to which the formulative-interactional facts immersed in the linguistic materiality of the text applies only to spoken texts.

However, according to Pinheiro (2005), the concept of text as a globalizing, social-communicative unit, which emerges within an interactional process, is common to spoken and written texts. Then, the marks of the formulative-interactive process are in both spoken and written texts. Thus, the textual construction processes are common to both spoken and written texts, although the specificities of each of the modalities are also acknowledged.

3 PTI and plurisemioticity: a brief bibliometric analysis

We collected the data for the bibliometric study from the CAPES database of theses and dissertations. We did search in which we cross-referenced two groups of keywords: (i) a set of lexical items about plurisemiotic textual genres and (ii) a set of lexical items about textual-interactive strategies (Table 1).

Table 1: Lexical item sets

http://dx.doi.org/10.35572/rjr.v11i3.2517
The search yielded 10,444 results. It would be impossible to check each of these results individually, but in the first analyses we could see that the results were unproductive for our purpose because there were no indications about PTI. We conducted a second search only with "discourse topic/topic organization" as a keyword. In this search, theses and dissertations with tangent themes popped up. For example, by using the word "discourse" in the expression "discourse topic", studies focusing on discourse have appeared in abundance, but not under PTI. Furthermore, searches that simply have the word "topic" in the title were also usual. A new cut-off was necessary to get to the list we wanted: the quotation from Jubran et al (1992) and/or Jubran and Koch (2006). This criterion was adopted because these works are founders of the PTI. In these works, there is justification for the elaboration of the theory, the conception of language and the definition of the object of study. Moreover, in Jubran and Koch (2006), one can find research reports conducted by members of the Textual-Interactive Organization Group. The quotation of this reference in the bibliography, therefore, would be consistent with productions that propose to analyze textual-interactive strategies in plurisemiotic texts. Thus, we came up with list of six works (among theses and dissertations). In Table 2, we indicate the author, the title, the nature of the text, the institution, the year, and the objective.
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Type of text</th>
<th>Institution</th>
<th>Year</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>LINS</td>
<td>Topical discourse organization of daily comic strips</td>
<td>Thesis</td>
<td>Federal University of Rio de Janeiro</td>
<td>2004</td>
<td>To investigate discourse topic keeping in comic strips sequences.</td>
</tr>
<tr>
<td>SOUZA JÚNIOR</td>
<td>Referencing and humor in Gatão em meia-idade, Miguel Paiva's comic strips</td>
<td>Thesis</td>
<td>Pontifical Catholic University of São Paulo</td>
<td>2012</td>
<td>To investigate the strategies of construction and reconstruction of referent and the function of humor in comic strips.</td>
</tr>
<tr>
<td>SILVA</td>
<td>Establishing the Discourse Topic in Comic Book written by a dyad of newly literate students</td>
<td>Dissertation</td>
<td>Federal University of Alagoas</td>
<td>2011</td>
<td>To investigate the construction of the discourse topic in comic book written by newly literate students.</td>
</tr>
<tr>
<td>SILVA</td>
<td>The genesis of referencing topic in writing processes of comic strips: textual creation by newly-literate students</td>
<td>Thesis</td>
<td>Federal University of Alagoas</td>
<td>2015</td>
<td>To analyze excerpts in both transcriptions and school manuscripts produced by a couple of female pupils, who had recently undergone a literacy program.</td>
</tr>
<tr>
<td>PINTO</td>
<td>Referencing and humor in Marly's comic strips</td>
<td>Dissertation</td>
<td>Federal University of Espírito Santo</td>
<td>2017</td>
<td>To investigate the process of (re) construction of referents (discursive-</td>
</tr>
</tbody>
</table>
cognitive objects) in the textual genre comic strips, and to observe the function of referential processes for the production of humor.

Source: Authors

This short list provides indications that the theme is not relevant, that is, there are not many researches that combine the study of the plurisemiotic text with the textual-interactive approach. Furthermore, research tends to follow an institutional and thematic delimitation.

Diagram 01 marks the course of research about PTI and text plurisemiotic, whose milestone is 2004, with the thesis of Lins (2004). The course is in a scheme formed by two layers. The first layer begins with the formation of PGPF, passes by installation of PTI - the works of Jubran et al (1992) - and arrives at the opening of the "PTI and plurisemioticity" theme with Lins (2004). The end the line is the consolidation of PTI, in 2006, with the publication of the book that collect studies carried out by the researchers of the Textual-Interactive Organization Group.

In the second layer, we see the academic productions developed from the thesis of Lins (2004), because, as we have mentioned, this work inaugurates the theme. In Silva's dissertation (SILVA, 2011), for example, there is a subsection entirely dedicated to study of Lins (2008). Moreover, Souza Júnior (2012) thanks the author, stance that reinforces its relevance in the development of research on the theme.

Concerning phenomena and genres, topical organization and referencing, the cartoon and comic strips are the focus of interest.
Diagram 01: Academic productions line

Diagram 02 marks the institutional space in which the theses and dissertations were designed and shows the Federal University of Espírito Santo (UFES) as the epicenter of the theme. The works of Silva (2011; 2015) are not linked to the UFES but to Lins (2004). The other cases are also connected, although indirectly, to UFES. Rivaldo Souza Júnior, for example, although he developed his thesis at PUC in São Paulo, is a professor at UFES. Maria da Penha Lins and Rivaldo Souza Júnior later advised the other researches designed at UFES. Most of authors are institutionally connected to UFES. This leads us to consider that the theme "PTI and plurisemioticity" is bound to a single institutional space, the space of action of the author who inaugurates the field of interest: Maria da Penha Pereira Lins.

http://dx.doi.org/10.35572/rlr.v11i3.2517
4 PTI and Plurisemioticity: reach and limit

As we mentioned before, the work of Lins (2004 [2008]) inaugurates the theme “PTI and plurisemioticity”. This work aims to “[...] identify the strategies of topic management in sequences of daily comic strips, as well as to show the establishment coherence through a combination of linguistic and visual elements.” (LINS, 2008, p. 14). The sequence 156-162, for example, from the “Gatão de meia-idade” comic strip by Miguel Paiva, according to Lins (2008), comprises the topic “Depression”, established through “captions and images jointly” (LINS, 2008, p. 220): “MIL E UMA NOITES... de estresse”, “MIL E UMA NOITES... de muito estresse”, “MIL E UMA NOITES... de insônia”, “MIL E UMA NOITES... de carência”, “MIL E UMA NOITES... de porre”, “MIL E UMA NOITES... emburacado”, “MIL E UMA NOITES... de paz” (A THOUSAND AND ONE NIGHTS... of stress”, “A THOUSAND AND ONE NIGHTS... of a lot of stress”, “A THOUSAND AND ONE NIGHTS... of insomnia”, “A THOUSAND AND ONE NIGHTS... emotional neediness”, “A THOUSAND AND ONE NIGHTS... of drunkenness”, “A THOUSAND AND ONE NIGHTS... stuck in bed”, “A THOUSAND AND ONE...
NIGHTS... peaceful). In addition to the captions, “the exploration of the image is another resource that the author can use to indicate topic continuity/progression” (LINS, 2008, p. 223).

That said, we think it is worth asking: can the topic be identified based on the captions alone? The author makes it clear that the captions and the images combine, but she also states that the comic strip's head text introduces the topic. Furthermore, she declares that the visual is a feature that signals the continuity of TD. By postulating that a verbal element introduces the TD and a non-verbal element is a possible resource to point out the topic continuity, we notice an analytical discourse that tends to attribute to the non-verbal element (notably the visual) of the plurisemiotic text a supporting role in relation to the verbal element (the captions).

In this sense, we were not able to infer the type of relationship between the verbal and non-verbal parts of the text in the establishment of the topic. The author says that verbal and non-verbal complement each other but does not theorize about this type of relationship. The caption introduces and establishes the continuity of the topic, but the image helps the continuity of the topic. It would not be possible to identify the topic without resorting to the visual part of the comic strip, as in comic strips 158 (“noite com insônia”/“night of insomnia”) and 162 (“noite sem insônia”/“peaceful night”).

Picture 01: Comic strip 158

Source: Lins (2008)
In terms of topical organization, what happens with the visual element in the first comic strips? It seems that the non-verbal element constitutes another resource, of a different nature, both in the establishment of the topic and in the continuity: the person's expression, the clock, the onomatopoeia that appears prominently in the background are non-verbal referents in centration that also act for the centration with other verbal referents, in the establishment of the topic “insomnia”.

In the second strip, the man floats, smiles and his arms resting on his head. These are non-verbal elements related to the idea that a person is peaceful. In other words, these images constitute elements in centration that establishes of the topic “sleep peacefully”. In short, in these comic strips, the introduction and continuity of the topic are on both verbal and visual content.

With this brief meta-analysis, we perceive that Lins (2008) does two analyzes in parallel: the verbal one, based on the PTI principles, and the non-verbal one, without a defined theoretical basis. The theoretical background of PTI to the verbal element is the concern, that is, “a relationship of interdependence between textual elements, established by cohesive mechanisms of sequencing and referencing, which promote the integration of these elements in a referential set” Jubran (2006, p. 35). For the verbal text, the concern is between “textual elements” (nominal referential expressions, for example). It is correct. However, we do not know the nature of the elements in centration in the non-verbal component of the text and how to cut and manipulate them in the analysis of the topic. It is, in our view, a lack of theoretical “adjustment” of the PTI principles for the analysis of linguistic events in which elements of other semiosis occur.

The pioneering work of Lins (2004 [2008]), as we mentioned before, opened space for other scholars to expand the research on plurisemiotic texts under PTI. Rangel's proposal (2012), for example, expands the analysis of the maintenance of the TD in a sequence of cartoons.
published during an electoral period in Brazil. Focusing on the plurisemiotic nature of the cartoon, Rangel (2012), likewise, does not ignore the non-verbal portion: “[...] the present research is interested in identifying the complementarity between the visual and linguistic components and the function of each one in the topical structuring of the text.” (RANGEL, 2012, p. 245).

By way of example, we will focus partly of the author’s analysis that investigates the opening of a topic in a cartoon-segment (cartoon-segment 51 - Picture 03). The author states that this cartoon is responsible for opening a topic and states that the verbal utterance written at the top (“How the voter feels when voting”) and at the bottom (“You are obliged to choose one and keep her for 4 years”), are “[...] the main evidence that marks the opening of this first subtopic [...]” (2012, p. 167).

Picture 03: Cartoon-segment 51 “How voters feel when they vote”.

Based on two non-verbal elements (the caricature of women and the absence of colors on the flag of Espírito Santo, the Brazilian state where the cartoons were published), Rangel (2012) states that the caricature provokes the reader’s reflection on the choice of the vote and the absence of a specific set of colors helps to frame this cartoon in the subtopic “General Elections”. According to the analysis of other segment cartoons, whose objective is to report to Espírito Santo, the artist uses the three colors of the state flag. In this sense, due to an in absentia relationship, cartoon-segment 51 is part of the subtopic “General Elections” and not of the “State Elections”, subordinated
to the “2006 Election Campaign” supertopic. According to PTI, the topic can be established by the relation of elements in centration with each other, present or inferable. It is correct. However, in this analysis, it is not demonstrated how the absence of colors can be taken as an inferable element. PTI’s principles for the establishment of TD allow us to understand what is and what is not inferable based on linguistic expressions.

In the analysis of cartoon-segment 51, the author says that there are “linguistic and non-linguistic markers” (visual) for the introduction of TD. The lower utterance is the linguistic marker, which expresses an idea of imposition, and the “non-linguistic element seems to reinforce this imposition.” (RANGEL, 2012, p. 239). Furthermore, the author points out as verbal resources of this cartoon “[…] disproportionate and deformed caricatures of candidates.” (RANGEL, 2012, p. 247). In short, in the analysis of cartoon-segment 51, a verbal element (the utterances) is the main element that opens the topic. The non-linguistic (visual) element is a kind of support, a complementary element. However, the expressions “one” and “her” (verbal elements) seem to form with the caricatures (non-verbal elements) a network of referential elements in centration. This can demonstrate that verbal and non-verbal act equally in the constitution of the set of referents that establish a topic. As this type of relationship is not foreseen in the theoretical design of the PTI (it could not, because the nature of the text is verbal), the topic establishment cannot be properly handled in the analysis. The analysis of the images in the cartoons ends up being in the background or done in parallel with the verbal analysis.

The other four studies in Diagram 01 make up a group with other characteristics regarding the use of PTI as a theoretical support for plurisemiotic texts analysis. The research by Silva (2011, 2015), for example, is not intended to analyze and describe the functioning of the text, having TD as an analytical category, as in the research by Lins (2004) and Rangel (2012), but the writing process. The Silva (2011)’s aim is to understand how elementary school students formulate the discursive topic in a written text based on what they infer from a comic book composed exclusively of images. Silva (2015) focuses on the writing process of elementary school students and expands the discussion to the genesis of topical referencing. Due to this purpose, the two researches do not take the PTI as a theoretical basis. They use the TD category to reflect on the school writing process. As the author points out, “in any comic book, whether it has a text or not, there is a topic discourse constructed from a set of explicit or inferable referents” (SILVA, 2011, p. 41). The author does not enter the discussion about the nature of the referents that establish the topic, whether

http://dx.doi.org/10.35572/rlr.v1i3.2517
verbal or visual, and the fact that the PTI necessarily deals with verbal referents is also not taken account.

The works of Souza Júnior (2012) and Pinto (2017) also do not focus on textual-interactive strategies and only use analytical categories. Both Souza Júnior’s thesis and Pinto’s dissertation study the humor in comic strips: the first analyzes the process of referencing and the construction of humor in the “Gatão de Meia-Idade” comic strips, the second analyzes the same process in the “Marly” comic strip. One of the assumptions common to both works is the premise that topical discontinuity is one of the aspects of the textual organization responsible for generating humor. When dealing with the topical discontinuity in the comic strips, the authors use the TD analytical category, but, in the same way, they do not theoretically discuss the fact that this category was initially designed for the verbal text and do not specify whether it underwent any “adaptation” to use for the analysis of non-verbal elements that go into the constitution of the text.

The six works arranged in the timeline of Diagram 01, as we have seen, have in common the fact that they highlight a conception of text in whose constitution are verbal and non-verbal aspects. They too call attention to the possibility of a theoretical object of another nature for the field of text studies: the plurisemiotic text. Although the authors don’t spell this position out (it is not the purpose of their research), they point, albeit implicitly, to the lack of a specific theoretical apparatus for the study of this object. This question dialogues with the reasoning of Bentes, Ramos and Alves Filho (2010). According to them the plurisemiotic (multimodal, in their terms) nature of written texts is one of the fundamental “challenging” objects for understanding the processes of constitution and use of texts.

The proposal to take the PTI, a theoretical-methodological design from the field of text studies, to support the study of plurisemiotic text constitutes the scope of the research inaugurated by Lins (2004) with the study of comic strips. However, we realized that the mere extension of the theoretical principles and categories of PTI to the analysis of plurisemiotic texts is not enough to fill the theoretical gap that the research suggests. The basic principle of PTI is the proposition that interactional factors are constitutive of the text and inherent to linguistic expression, and it highlights the textual and interactional functions performed by the processes and mechanisms of textual elaboration.

Research on PTI and plurisemioticity runs up against the limit of the lack of theoretical formalization for concepts such as “linguistic expression”, “textual functions”, “process and mechanism of elaboration”. It is true that the plurisemiotic text is an object constituted by
phenomena of a different nature (verbal and non-verbal) so we understand that the study that intends to focus on its functioning and use cannot separate these phenomena. Likewise, the one (verbal) is not a complement to the other (non-verbal). In this sense, the basic principle, and concepts of PTI presented in the founding texts are not adequately applied to the non-verbal. In this case, it would be necessary, therefore, to reconfigure concepts such as "expression", "function", "process", "mechanism" or propose other concepts to encompass the verbal and the non-verbal. In addition, the PTI establishes, as we said in section 2, three-order facts for the verbal text, so it would also be necessary to review the order in which the facts of this object, which is the plurisemiotic text, are.

5 Final considerations

The synthesis of knowledge that we carried out in this work on the PTI and the study of plurisemiotic texts indicated that the issue is not a field of great influence in text studies in Brazil. If we take the period that begins in 2004, the time frame of interest in the study of plurisemioticity under the PTI, until the 2021, we count 17 years, and only six works, among dissertation and thesis: a small amount in relation to the number of Postgraduate Programs in Letters/Linguistics in the country. Furthermore, this small field of influence practically orbits only one institutional space: UFES.

From the point of view of reflection on the degree of conceptual reconfiguration operated in the analysis of plurisemiotic texts under PTI, we observed that the same conceptual field, especially around the TD category, is maintained in the approach of imagery elements. These elements are complementary to the verbal elements to the establishment of textual and interactional functions. This finding suggests that the textual-interactive study of plurisemiotic texts lacks formalization within the PTI. This limitation may even be related to the small field of influence of the perspective.

In this scenario, we can think a bifurcated path. In one direction, there is the possibility of recognizing the PTI as a theoretical approach limited to verbal (spoken/written texts), not compatible with the study of plurisemiotic texts, at least, with the imagery part. We suggest to assume that, considering the context in which the PTI emerged, it cannot support the effective study of plurisemiotic texts.

http://dx.doi.org/10.35572/rfr.v11i3.2517
In other direction, there is the possibility of theoretical and conceptual expansion of PTI to coherently encompass plurisemioticity. The processes and mechanisms of textual construction are, for example, particularized, according to the original PTI principle, in the context of linear topic segments. Considering the non-linear nature of visual signs, this principle does not apply consistently: one cannot speak of a linear organization of a non-linear phenomenon, such as an image. This expansion should involve the establishment of the text as a theoretical object of another nature, the review of the TD properties, the ordering of the functions (textual and interactional) and, finally, the respective processes and mechanisms of textual elaboration. We prefer not to take a position here on the best direction to take. We leave the question as a challenge for text studies, especially those that are situated in socio-interactional perspectives.

<table>
<thead>
<tr>
<th>CRedit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgement: Not applicable.</td>
</tr>
<tr>
<td>Financing: Not applicable.</td>
</tr>
<tr>
<td>Conflicts of interest: The authors certify that they have no commercial or associational interest that represents a conflict of interest in relation to the manuscript.</td>
</tr>
<tr>
<td>Ethical Approval: Not applicable.</td>
</tr>
<tr>
<td>Contributor Roles:</td>
</tr>
<tr>
<td>Conceptualização, Investigation, Writing – original draft. PINHEIRO, Clemilton Lopes.</td>
</tr>
<tr>
<td>Data curation, Investigation, , Writing – original draft, Writing - review &amp; editing. LIMA, Mateus Parducci Soares de.</td>
</tr>
</tbody>
</table>

References


http://dx.doi.org/10.35572/rlr.v11i3.2517