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Narrative dynamics and algorithmic amplification of childhood vaccine misinformation on Brazilian TikTok

Dinâmicas narrativas e amplificação algorítmica da desinformação vacinal infantil no TikTok
brasileiro

Dinámicas narrativas y amplificación algorítmica de la desinformación sobre la vacunación
infantil en TikTok brasileño

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ABSTRACT

Objective: To analyze the narrative dynamics and amplification strategies of childhood vaccine misinformation in Brazilian TikTok videos.

Method: Qualitative, exploratory, and documentary study conducted using public videos and comments posted on Brazilian TikTok between January and October 2025 containing anti-vaccine content related to childhood vaccination. Thirteen videos selected through a systematic search using predefined hashtags and keywords were analyzed. Engagement metrics included likes, comments, shares, and saves. The textual corpus was subjected to Descending Hierarchical Classification and Correspondence Factor Analysis using IRaMuTeQ software to identify narrative patterns, lexical associations, and discursive structures related to vaccine misinformation.

Results: High engagement was observed, with predominance of narratives based on personal experiences and institutional distrust. Mean values per video were 1,815.36 likes, 810.36 comments, 558.29 shares, and 224.64 saves per video. Three narrative cores were identified: political-institutional, biomedical risk, and scientific-legitimizing. Correspondence Factor Analysis explained approximately 60% of the variance (32% in Factor 1; 28% in Factor 2). Amplification of discourses related to fear of adverse events, institutional discredit, and use of scientific language to support contradictory arguments was observed, with comments acting as spaces for social validation.

Conclusion: Childhood vaccine misinformation on TikTok is sustained by emotional narratives and social validation mechanisms, reinforcing the need for evidence-based digital communication strategies to address vaccine hesitancy.

Descriptors: Vaccination. Vaccine Hesitancy. Misinformation. Social Media. Child Health.

RESUMO

Objetivo: Analisar as dinâmicas narrativas e estratégias de amplificação da desinformação vacinal infantil em vídeos do TikTok brasileiro.

Método: Estudo qualitativo, exploratório e documental, conduzido por meio de vídeos e comentários públicos publicados no TikTok brasileiro entre janeiro e outubro de 2025, contendo conteúdo antivacinal relacionado à vacinação infantil. Foram analisados 13 vídeos selecionados por busca sistemática utilizando hashtags e palavras-chave previamente definidas. As métricas de engajamento incluíram curtidas, comentários, compartilhamentos e salvamentos. O corpus textual foi submetido à Classificação Hierárquica Descendente e à Análise Fatorial de Correspondência no software IRaMuTeQ, visando identificar padrões narrativos, associações lexicais e estruturas discursivas relacionadas à desinformação vacinal.

Resultados: Observaram-se elevado engajamento e predominância de narrativas baseadas em experiências pessoais e desconfiança institucional. Houve médias de 1.815,36 curtidas, 810,36 comentários, 558,29 compartilhamentos e 224,64 salvamentos por vídeo. Foram identificados três núcleos narrativos: político-institucional, risco biomédico e científico-legitimador. A Análise Fatorial de Correspondência explicou cerca de 60% da variância (32% no Fator 1; 28% no Fator 2). Evidenciaram-se amplificação de discursos associados ao medo de eventos adversos, descrédito institucional e uso de linguagem científica para sustentar argumentos contraditórios, com comentários atuando como espaços de validação social.

Conclusão: A desinformação vacinal infantil no TikTok é sustentada por narrativas emocionais e validação social, reforçando a necessidade de estratégias de comunicação digital baseadas em evidências para o enfrentamento da hesitação vacinal.

Descritores: Vacinação. Hesitação vacinal. Desinformação. Mídias sociais. Saúde da criança.

RESUMEN

Objetivo: Analizar las dinámicas narrativas y las estrategias de amplificación de la desinformación sobre la vacunación infantil en videos de TikTok brasileño.

Método: Estudio cualitativo, exploratorio y documental realizado con videos y comentarios públicos publicados en TikTok brasileño entre enero y octubre de 2025, que contenían contenido antivacunas relacionado con la vacunación infantil. Se analizaron trece videos seleccionados mediante búsqueda sistemática utilizando hashtags y palabras clave previamente definidas. Las métricas de interacción incluyeron “me gusta”, comentarios, compartidos y guardados. El corpus textual fue sometido a Clasificación Jerárquica Descendente y Análisis Factorial de Correspondencia mediante el software IRaMuTeQ, con el fin de identificar patrones narrativos, asociaciones léxicas y estructuras discursivas relacionadas con la desinformación vacunal.

Resultados: Se observó alto nivel de interacción y predominio de narrativas basadas en experiencias personales y desconfianza institucional. Los valores promedio fueron 1.815,36 “me gusta”, 810,36 comentarios, 558,29 compartidos y 224,64 guardados por video. Se identificaron tres núcleos narrativos: político-institucional, riesgo biomédico y científico-legitimador. El Análisis Factorial de Correspondencia explicó aproximadamente el 60% de la varianza (32% en el Factor 1; 28% en el Factor 2). Se evidenció la amplificación de discursos asociados al miedo a eventos adversos, descrédito institucional y uso de lenguaje científico para sustentar argumentos contradictorios, con los comentarios actuando como espacios de validación social.

Conclusión: La desinformación sobre la vacunación infantil en TikTok se sustenta en narrativas emocionales y mecanismos de validación social, lo que refuerza la necesidad de estrategias de comunicación digital basadas en evidencia para afrontar la reticencia vacunal.

Descriptores: Vacunación. Reticencia a la Vacunación. Desinformación. Medios Sociales. Salud del Niño.

INTRODUCTION

Mass immunization constitutes one of the major advances in modern public health, playing fundamental role in the control and eradication of infectious diseases over recent decades⁽¹⁾. Recognized as an important cost-effective intervention, vaccination prevents an estimated 2 to 3 million child deaths annually from diseases such as pertussis, measles, and pneumococcal infections⁽²⁾. Globally, the World Health Organization (WHO), UNICEF, and Gavi developed the Immunization Agenda 2030 (IA2030), which establishes goals such as achieving 90% coverage of essential childhood vaccines and reducing by 50% the number of zero-dose children⁽³⁾.

Despite the undeniable benefits of vaccination in reducing morbidity and mortality, vaccination coverage has experienced concerning declines in national and international contexts, particularly since the COVID-19 pandemic. This phenomenon is strongly associated with vaccine hesitancy, which refers to reluctance or refusal to accept vaccines despite the availability of immunization services and is influenced by cognitive, cultural, and contextual factors, including the circulation of incorrect or misleading information about vaccines in

digital environments⁽⁴⁾. Recent studies indicate that vaccine hesitancy can be understood as a dynamic and multifactorial phenomenon, strongly influenced by trust in institutions and exposure to digital information environments, especially social media⁽⁵⁾.

The scientific literature has described how the dissemination of fake news and misinformation about vaccines negatively affects vaccination intentions and adherence to vaccination campaigns, being associated with declines in vaccination coverage and the reemergence of controlled diseases, such as measles, in some regions⁽⁶⁾. The infodemic phenomenon, defined by the World Health Organization as an overabundance of information, both true and false, that hinders informed decision-making, exacerbated this dynamic throughout the COVID-19 pandemic and was identified as a threat to vaccine confidence and global public health^(6,7).

From a contemporary scientific perspective, health-related misinformation has been analyzed as a sociotechnical phenomenon in which cognitive, social, and structural factors interact to amplify misleading content. Recent evidence demonstrates that such content is reinforced by dynamics of repetition, social validation, and circulation through digital networks, making it difficult to correct false information⁽⁸⁾.

Social media plays a central role in this context, as digital platforms have become favorable environments for the circulation of vaccination-related content, often characterized by polarization, misinformation, and personal narratives that compete with messages based on scientific evidence⁽⁹⁾. Furthermore, health-related content with a strong emotional component and personal narratives tends to achieve greater engagement and wider dissemination on these platforms, thereby amplifying misinformation⁽¹⁰⁾.

However, despite the growing scientific recognition of the influence of social media on this process, most research has focused on platforms such as Twitter and Facebook. These platforms have specific gaps in understanding how narrative strategies are articulated and amplified in short-form video formats, such as those predominant on TikTok. Preliminary studies indicate that most vaccine-related content on this platform is generated by non-health-professional creators and that vaccine hesitancy-related topics predominate among these videos, highlighting the need for further investigation of this communication environment⁽¹⁰⁾.

On TikTok, these dynamics take on specific characteristics, marked by the use of short videos, strong audiovisual appeal, and the circulation of content based on personal experiences. This favors the simplification of complex messages and the dissemination of misconceptions about vaccines⁽¹¹⁾.

In this scenario, the strategic role of nursing becomes evident, particularly in Primary Health Care, in promoting educational actions, challenging myths, and mediating between scientific knowledge and the population. The literature indicates that proactive nursing practice, through qualified communication and health education, is a key element in reducing vaccine resistance and strengthening immunization practices⁽¹²⁾.

Although previous studies have analyzed vaccine communication and vaccine misinformation on TikTok, these investigations have focused primarily on content regarding COVID-19 vaccination, high-reach hashtags, highly visible videos, or recurrent infodemic topics^(10,11,13). An analysis of how childhood vaccine misinformation narratives are structured in videos, discursively legitimized, and amplified through interactions in the comments remains underexplored, particularly in the Brazilian context. Thus, the following research question was formulated: how are childhood vaccine misinformation narratives structured, legitimized, and amplified in videos and comments on Brazilian TikTok? Addressing this gap, the objective of this study was to analyze the narrative dynamics and amplification strategies of childhood vaccine misinformation in Brazilian TikTok videos.

METHOD

This is a qualitative, exploratory, and documentary study employing a lexicometric approach to analyze the textual corpus. The study is classified as documentary because it used digital records previously produced and publicly available on the TikTok platform, without researcher intervention in the data generation process. Principles of transparency and methodological rigor applicable to research in digital environments were adopted, considering contemporary recommendations for infodemiology and social media analysis studies^(7,10).

Data collection was conducted through systematic searches on the TikTok digital platform, considering only publicly accessible videos. The inclusion criteria considered videos published on the platform between January 2025 and October 2025, in Portuguese, containing explicit anti-vaccine discourse in which the safety, efficacy, or necessity of vaccines was denied. Furthermore, the videos had to be posted by personal profiles, influencers, or alternative “natural health” channels, to capture the diversity of sources and enable a more comprehensive analysis of misinformation. For the purposes of this study, explicit anti-vaccine discourse was defined as any content presenting at least one of the following characteristics: (1) denial of vaccine efficacy; (2) claims that vaccines cause serious harm without scientific support; (3) direct recommendation against childhood vaccination; (4) attribution of causality between vaccination and adverse events without recognized scientific

evidence; or (5) questioning the need for childhood vaccination in disagreement with official public health recommendations.

The search, screening, and selection of videos were conducted by three researchers. The researchers involved in data collection and video selection had training in the health sciences, previous experience in qualitative research, and experience with studies involving digital media and health communication. Before data collection, the team underwent internal training to standardize the inclusion and exclusion criteria, apply the operational definition of explicit anti-vaccine discourse, and conduct searches on TikTok platform. The researchers were familiar with the platform's functioning and had experience in analyzing digital health-related content, contributing to the consistency of the corpus selection process. Eligibility was independently assessed by each researcher, and any disagreements were resolved by consensus.

Fact-checking videos and humorous videos lacking an informative intent were excluded. The definition of inclusion and exclusion criteria was guided by previous studies on health-related misinformation on social media, aiming to ensure consistency in corpus selection^(10,14).

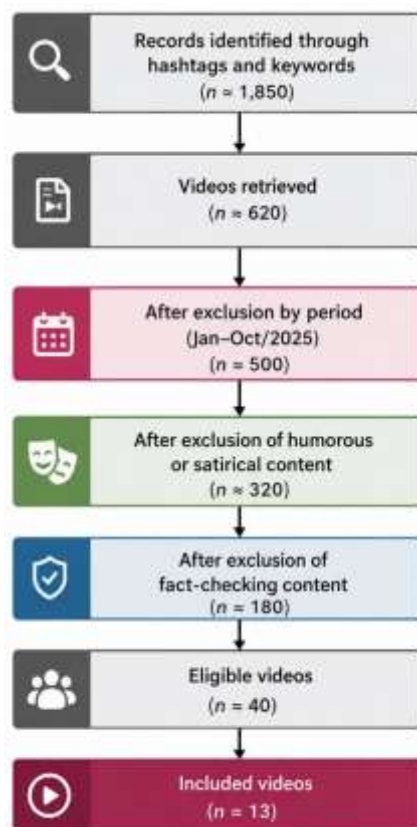
To identify the material, hashtags and keywords related to vaccine hesitancy and anti-vaccine discourse were used, including *#antivacina* (anti-vaccine), *#antivax*, *#vacinasfazmal* (vaccines are harmful), *#vacinasfazemmal* (vaccines are harmful), “*não tomar vacina*” (do not get vaccinated), “*antivacina*” (anti-vaccine), and “*vacinas matam*” (vaccines kill), which had been previously established and were adjusted according to the platform. To minimize interference resulting from the platform’s algorithmic personalization, searches were conducted using a newly created account with no prior browsing history, likes, shares, or interactions related to the topic. Furthermore, repeated searches were conducted on different days and at different times, using the same descriptors.

The searches were conducted manually, and the results were filtered according to the established inclusion and exclusion criteria. The search strategy was conducted iteratively, considering the platform’s algorithmic logic, in which exposure to content influences the recommendation of new videos, with the aim of minimizing retrieval bias.

All videos meeting the established criteria within the defined period were included, totaling 13 videos (Figure 1). This was not a sampling procedure but rather an exhaustive analysis of the corpus identified based on the defined descriptors. After applying the descriptors and filters, no other video simultaneously met the language, period, and explicitly anti-vaccine narrative criteria, thus constituting the final study corpus. The use of an

intentional and exhaustive corpus is consistent with qualitative and lexicometric studies that prioritize analytical depth and saturation of meanings over statistical representativeness^(15,16).

Figure 01. Flowchart of the identification, screening, eligibility, and inclusion of videos analyzed for childhood vaccine misinformation on Brazilian TikTok. Fortaleza, Ceará, Brazil, 2026.



Source: Prepared by the authors (2026).

For each video included in the study, data regarding the publication profile, number of likes, comments, saves, and shares, as well as the caption, publication date, notes, video format, and content focus, were systematically recorded in an Excel[®] spreadsheet. Additionally, the comments associated with each video were extracted using the TikTok Comment Export Tools and TTCommentExporter applications. The data were organized and standardized prior to analysis, with consistency checks and removal of duplicate entries to ensure the quality of the database.

Data analysis was conducted using descriptive statistics, applying measures of central tendency (mean and median) and dispersion (standard deviation) in R version 4.2.2. For this process, the data were organized and processed in an electronic spreadsheet, considering only valid numerical values corresponding to each metric analyzed.

This study was not intended to estimate the prevalence of anti-vaccine content on the platform or to measure the proportion of videos with this profile within the total universe of TikTok publications. Rather, it represents an intentional analytical focus aimed at exploring the narrative and argumentative dynamics present in the identified corpus, rather than an epidemiological survey of content production on the platform. This methodological scope was adopted to avoid inappropriate inferences and ensure consistency between the study objective, design, and interpretation of the findings.

The unit of analysis adopted was the comments posted on the selected videos, considered as autonomous units. The investigation focused on the argumentative structure and mechanisms of discourse legitimation present in each video, as well as on the interactions generated in the comments. The aim was not to analyze the overall volume of content produced on the platform, but rather to examine in depth the content and discursive organization of eligible videos according to the established criteria. This approach allows not only the content itself to be understood, but also the processes involved in the construction and social validation of narratives in digital environments.

Textual processing was performed using IRaMuTeQ software (*Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires*), with automatic segmentation of Elementary Context Units (ECUs) fixed at 40 words. Each comment was treated as an independent unit, according to the methodological design of the study. Descending Hierarchical Classification (DHC) and Correspondence Factor Analysis (CFA) techniques were applied, allowing the identification of lexical classes, semantic associations, and narrative structures within the corpus.

Data analysis followed an automated lexicometric approach based on the frequency, distribution, and association of lexical forms present in the textual corpus. Unlike qualitative approaches based on manual coding and interpretive thematic construction, the present study employed statistical text analysis procedures operationalized using IRaMuTeQ software. Initially, the comments were organized and subjected to corpus preparation, followed by automatic segmentation into Elementary Context Units. Subsequently, Descending Hierarchical Classification was performed to identify lexical clusters with semantic proximity, followed by Correspondence Factor Analysis to explore the relationships among the identified classes. The results were interpreted by the researchers based on the clusters generated by the software, considering the lexical structure of the classes, association values (χ^2), semantic proximity between terms, and their contextualization in light of the scientific

literature. As this was an automated lexicometric analysis based on Descending Hierarchical Classification and Correspondence Factor Analysis, no manual coding tree was constructed.

Because the videos were publicly accessible, approval from a Research Ethics Committee was not required. Furthermore, there was no interaction with the authors of the videos, nor were names or personal images recorded. Nevertheless, ethical principles related to research in digital environments were observed, including data anonymization and the non-identification of users.

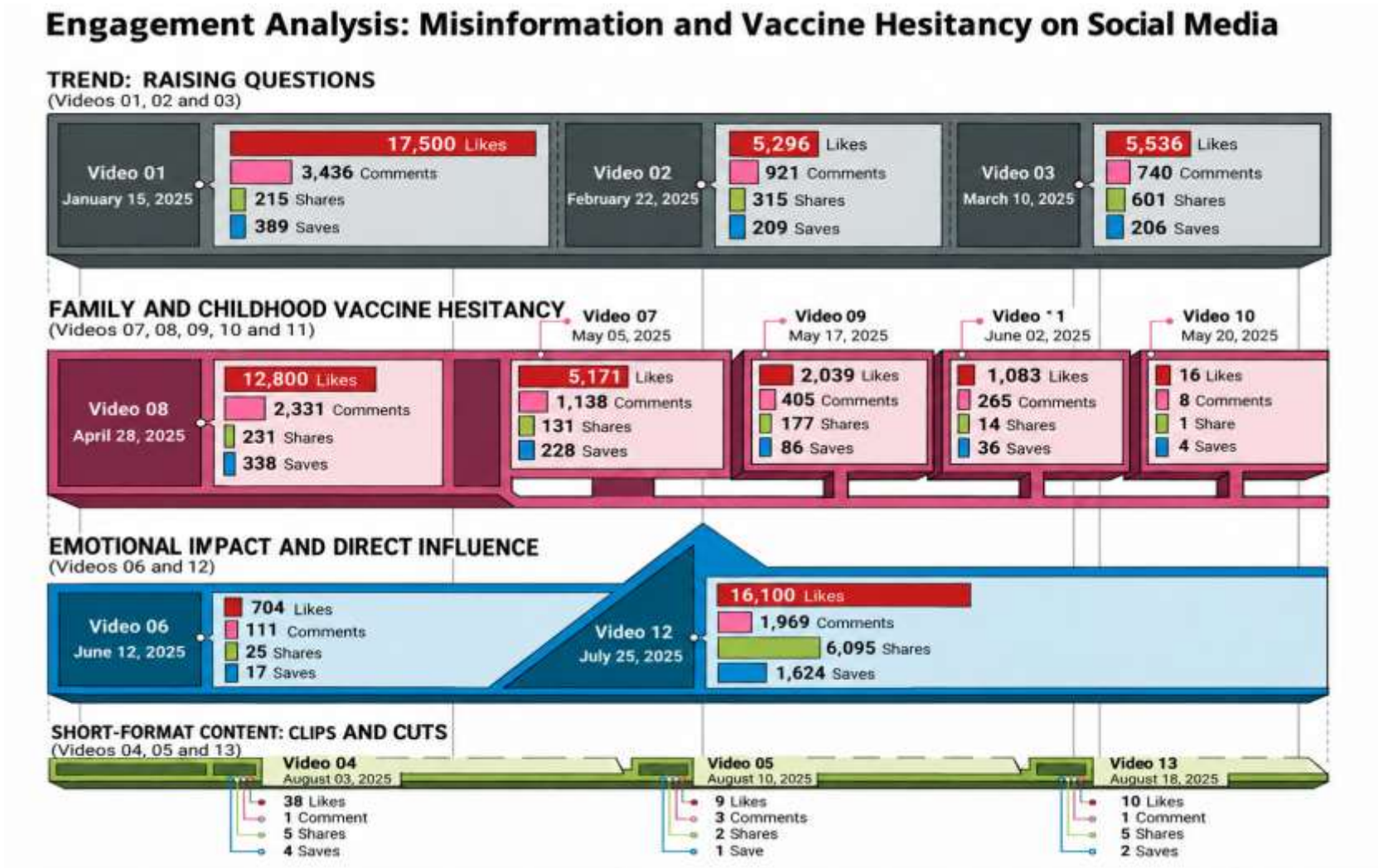
NotebookLM was used exclusively for the preliminary organization of ideas and support in the visual structuring of figures. ChatGPT was used solely for linguistic review, grammatical correction, and improvement of textual clarity. No artificial intelligence tool was used for data collection, selection, coding, data interpretation, or preparation of the results. All analytical stages were conducted by the authors, who critically reviewed the content produced and assume full responsibility for the manuscript.

The preparation and presentation of the study followed, when applicable to the documentary and digital nature of the investigation, the relevant items of the Consolidated Criteria for Reporting Qualitative Research (COREQ), and the checklist was submitted as supplementary material.

RESULTS

The analyzed dataset consists of 13 videos published on the TikTok platform. Overall, Figure 2 shows that, despite a small sample, the analyzed videos demonstrated significant levels of engagement, indicating a high potential for the dissemination of anti-vaccine narratives.

Figure 2. Distribution of analyzed videos by publication date, engagement metrics, and narrative category. Fortaleza, Ceará, Brazil, 2026.



Source: Prepared by the authors based on study data.

The data reveal a pattern of high variability in the engagement metrics of the analyzed videos, characterized by asymmetric distributions and the presence of extreme values. Likes had the highest mean (1,815.36) and an equally high standard deviation (2,345.54), indicating substantial dispersion and concentration of engagement in a few high-reach videos, as corroborated by the lower median (704).

A similar pattern was observed for comments (mean: 810.36; median: 335; standard deviation: 1,069.18), suggesting that interaction is also concentrated in specific content. The sharing metric was even more pronounced, with a standard deviation (1,602.74) that substantially exceeded the mean (558.29) and median (78), indicating strong heterogeneity and concentrated potential for viral dissemination.

Finally, saves showed a lower overall magnitude (mean: 224.64; median: 61; standard deviation: 424.59), but maintained the asymmetric pattern observed in the other variables. Together, these findings indicate that engagement is not distributed homogeneously but is strongly influenced by a small number of high-performing pieces of content, suggesting a propagation dynamic based on viral peaks.

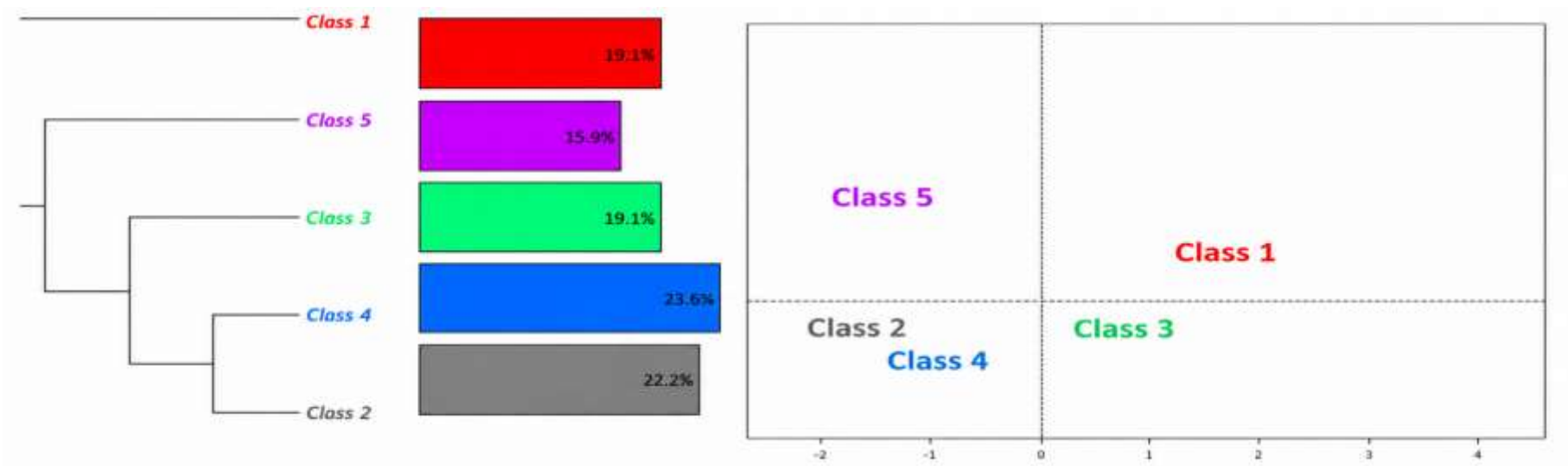
Although engagement metrics provide insight into the reach and circulation dynamics of the analyzed content, they do not, by themselves, capture the internal structure of the discourses underlying these interactions. Considering that the observed amplification is intrinsically related to how meanings are produced, shared, and legitimized in the digital environment, it was necessary to proceed to an analysis of the textual content of the comments.

Given this analytical limitation, a lexicometric analysis of the corpus was performed to identify patterns of narrative organization, lexical associations, and underlying semantic structures underlying the observed interactions. This approach makes it possible to go beyond the quantitative dimension of engagement, allowing an understanding of how different narrative strategies articulate to construct and sustain vaccine-related misinformation within the analyzed context.

The corpus consisted of 13 texts, divided into 170 text segments (TS), with 126 TS (74.12%) utilized in the analysis. A total of 6,855 occurrences (words, forms, or lexical items) were identified, comprising 1,045 distinct words, 937 of which appeared only once.

The analyzed content was categorized into five classes (Figure 3). Subsequently, these classes were reorganized into three macro-groups based on semantic proximity and the dendrogram structure.

Figure 03 - Discursive organization of childhood vaccine misinformation on TikTok according to Descending Hierarchical Classification and Correspondence Factor Analysis.



Source: Prepared by the authors based on study data.

Group 1 – Political-Institutional Core

Group 1, composed of classes 1 and 5 of the dendrogram, which emerge from the same upper branch, indicates that they were separated only at the final levels of classification. It encompasses statements associated with mandatory vaccination, distrust of the State, and tension between parental autonomy and public policies.

In the factorial plane, both occupy the same region. They therefore share a common lexical core and differ through internal variations. This group gathers content related to terms such as “government,” “mandatory vaccination,” “State,” “rights,” “public policy,” “child protective services,” “mandatory vaccination,” and “coercion” regarding vaccine use. These words showed high association values ($\chi^2 > 10$), indicating a strong association of these forms with the group. This group represents a narrative centered on the relationship between individuals and the State, structured by perceptions of coercion, tension between autonomy and obligation, and the political framing of vaccination.

The comments presented below were selected because they represent textual segments with high association values (χ^2) with the respective lexical classes identified by DHC and are used as illustrative examples of the predominant discursive patterns.

Comments such as “*are they forcing you to sign a form and being called before child protective services?*” and “*they don't require much more important vaccines than this one (referring to the COVID vaccine) ... strange*” clearly express a conflict between parental autonomy and state regulation, as well as a perception of coercion, which are central elements of the political-institutional axis in the CFA.

Group 2 – Biomedical Risk Core

Group 2, composed of classes 2 and 4, concentrates narratives centered on adverse events, risk, and mortality, operating through the amplification of fear. They form an intermediate sub-block in the dendrogram, indicating semantic proximity. The words “thrombus,” “heart attack,” “death,” “risk,” and “adverse event” show high relative frequency and high χ^2 values (> 10 , $p < 0.001$), indicating strong thematic dominance and positive association within these two classes.

Statements such as “*mine developed epilepsy after getting the COVID vaccine*”; “*my niece developed anxiety, with a racing heart*”; and “*ever since I got vaccinated, I have never had the same health*” explicitly convey fear and perceptions of risk, sometimes based on

personal experience, which are consistent with the psychosocial and biomedical perspectives inferred from this group.

Group 3 – Scientific-Legitimizing Core

Group 3 stems from class 3 and stands out as an independent branch. It uses technical vocabulary and references to scientific evidence to support positions, including contradictory ones. It includes terms such as “efficacy,” “study,” “evidence,” “research,” and “data,” also presenting high χ^2 (> 10 , $p < 0.001$). It makes a significant contribution to the overall structure of the corpus and, in the CFA, occupies the scientific-technical pole, presenting a discourse that mobilizes scientific language and contests the legitimacy of vaccination.

“My obstetrician told me not to get it”; “my child's own pediatrician didn't recommend that he get it”; “a doctor told me off the record that she does not think it is recommended to give it” are examples of comments that often operate against vaccination, using a typical scientific-legitimizing discursive strategy: invoking technical authority (physicians and pediatricians) as a source of validation.

The CFA revealed two main factors, explaining approximately 60% of the total variance. Factor 1 ($\approx 32\%$) contrasts scientific-technical discourse with political-institutional discourse. Factor 2 ($\approx 28\%$) distinguishes individual and collective dimensions.

DISCUSSION

Although the final corpus totaled 13 videos, the analysis revealed recurring narrative patterns, repetition of central arguments, and stability in the rhetorical strategies employed, particularly regarding the amplification of fear, the attribution of direct causality between vaccines and serious adverse events, and the mobilization of medical authorities as discourse legitimizers. The repetition of these thematic axes throughout the analyzed material indicated narrative stability across the eligible videos, providing analytical consistency to the examined corpus. This pattern of recurrence is consistent with theoretical saturation criteria used in other studies⁽¹⁵⁾.

The study showed that the most common videos identified were presented in the form of a trend, “we listen and do not judge,” advocating against COVID-19 vaccination of infants and targeting mothers of infants approximately 6 months of age, an age group corresponding to the beginning of the vaccination schedule. Most of these contents may take on an emotional

character by suggesting the suspension of maternal judgment regarding the decision not to vaccinate and were predominantly posted by maternal profiles with limited influence on the platform. One hypothesis for this pattern may be related to recent changes in the platform's content circulation mechanisms⁽¹³⁾, however, this relationship was not directly investigated in this study.

This finding is consistent with recent evidence indicating a transition from explicit misinformation to more implicit and emotionally mediated forms, which may have greater social acceptance and encounter less resistance from users⁽¹¹⁾. In this context, narratives based on personal experiences function as persuasive devices, eliciting identification and empathy, thereby contributing to content amplification.

This is evident in the strength that each narrative acquires in the videos' comments, where a substantial portion of the dissemination of false information occurs, as users feel comfortable expressing their opinions about the content discussed. This pattern contributes to the consolidation of distorted perceptions regarding vaccine safety and generates uncertainty among other users.

This phenomenon can be interpreted in light of recent studies demonstrating that digital environments facilitate the formation of discursive communities in which narratives are collectively reinforced, particularly when based on personal experiences and social validation⁽¹⁰⁾. These spaces serve as environments of legitimation, in which the repetition of similar accounts strengthens the perception of truthfulness, regardless of the available scientific evidence.

This analysis is consistent with a study⁽¹¹⁾, that identified claims related to severe side effects, including neurological damage, infertility, and risk of death, as the main forms of misinformation. These narratives, often lacking a scientific basis, exploit fear as a central element of persuasion.

These findings are consistent with evidence indicating that fear of adverse effects is one of the main determinants of vaccine hesitancy among parents, frequently associated with exposure to unverified information⁽¹⁷⁾.

However, robust scientific evidence demonstrates the positive effects of COVID-19 vaccination, including significant reductions in infections, hospitalizations, and deaths among the pediatric population⁽¹⁸⁾. These findings directly contrast with the discourses observed in the analyzed videos, highlighting a gap between scientific knowledge and public perception.

Recent studies indicate that continuous exposure to misinformation in digital environments can undermine trust in vaccines and health institutions, directly affecting

individuals' decision-making and contributing to vaccine hesitancy⁽¹⁹⁾. This scenario reinforces the importance of evidence-based health communication strategies adapted to the dynamics of digital platforms, as well as the ongoing educational work of nurses to disseminate accurate and relevant information essential for maintaining children's health.

Another relevant factor in the decision against vaccination relates to the information sources used by users. It was observed that many comments mention guidance attributed to health professionals, particularly pediatricians, as a justification for not vaccinating. This transfer of authority reinforces anti-vaccine discourse and shifts responsibility for the decision to figures perceived as legitimate. This finding is consistent with evidence that decisions regarding childhood vaccination are influenced by contextual factors and parents' level of information, including educational attainment and access to vaccine-related content⁽²⁰⁾.

This finding is particularly relevant because recent studies demonstrate that trust in health professionals is one of the main determinants of vaccine uptake. However, when this authority is invoked informally or out of context, it may contribute to the dissemination of inaccurate information and reinforce vaccine hesitancy⁽¹⁹⁾. The findings suggest that health professionals, including nurses, may play a relevant role in producing and disseminating evidence-based content within digital environments.

The results of this study demonstrate the presence of content with strong emotional appeal, misinformation, and institutional distrust, aspects that have been described as relevant determinants of vaccine hesitancy. The dissemination of fake news and narratives based on individual experiences or fear of adverse events may contribute to the construction of negative perceptions regarding vaccine safety and efficacy, directly influencing vaccination decisions.

This pattern is also observed in studies analyzing factors associated with childhood non-vaccination, in which fear of adverse events, distrust of vaccines, and the circulation of false information are identified as central elements in parents' decisions. Furthermore, low educational attainment and limited access to high-quality information have been identified as factors contributing to vulnerability to misinformation, reinforcing the development of negative perceptions of vaccination⁽¹⁷⁾.

In this context, the role of nursing stands out as central agent to cope with misinformation. Evidence indicates that nursing professionals work on the front lines of immunization, being responsible not only for the operational aspects of vaccination services but also for educating users, identifying questions and concerns, and addressing myths related to vaccines. Furthermore, the educational and communication role of nursing has been

considered essential for increasing public understanding of the benefits of vaccination and promoting greater adherence to immunization campaigns⁽¹²⁾.

Additionally, strategies such as health education, team training, community engagement, and the use of communication channels, including social media, are identified as essential for addressing the infodemic. These elements reinforce the need to position nursing professionals not merely as implementers of immunization actions but as key actors in health communication strategies within the digital context.

Given the dynamic nature of the digital platform, the study has limitations regarding the video search and retrieval process, particularly due to the functioning of the algorithm, which personalizes the content displayed based on user behavior.

Despite these limitations, the study contributes to advancing knowledge by highlighting narrative patterns and interaction dynamics that sustain vaccine misinformation on one of today's most widely used digital platforms. It also provides a basis for developing more effective response strategies aligned with the contemporary digital context.

CONCLUSION

The results demonstrated that videos containing childhood vaccine misinformation narratives showed a high potential for engagement and circulation on TikTok, as evidenced by the metrics regarding likes, comments, shares, and saves observed in the analyzed corpus. At the same time, these contents were found to be sustained by three main narrative cores: political-institutional, biomedical risk, and scientific-legitimizing, which operate through mechanisms of fear, personal experiences, and social validation. These findings highlight that content reach and the narrative structure of discourses act jointly to amplify vaccine misinformation in digital environments.

REFERENCES

1. Cunegundes KSA, Machado DM, Vieira NV. “Não sou antivacina, mas...”: entendendo a hesitação vacinal a partir das narrativas de pais hesitantes. *Cad Saúde Pública* [Internet]. 2025;41(5):e00154624. <https://doi.org/10.1590/0102-311XPT154624>
2. Zhang H, Patenaude B, Zhang H, Jit M, Fang H. Global vaccine coverage and childhood survival estimates: 1990-2019. *Bull World Health Organ*. 2024;102(4):276-287. <https://doi.org/10.2471/BLT.23.290129>
3. United Nations Children's Fund. Os serviços de imunização começam lentamente a se recuperar das interrupções causadas pela Covid-19 [Internet]. Brasília: UNICEF; 2021 [cited 2026 Mar 31]. Available from: <https://www.unicef.org/brazil/comunicados-de->

[imprensa/os-servicos-de-imunizacao-comecam-lentamente-se-recuperar-das-interrupcoes-por-causa-da-pandemia](#)

4. Souto EP, Fernandez MV, Rosário CA, Petra PC, Matta GC. Hesitação vacinal infantil e COVID-19: uma análise a partir da percepção dos profissionais de saúde [Childhood vaccine hesitancy and COVID-19: an analysis based on the perception of health professionals]. *Cad Saude Publica*. 2024;40(3):e00061523. <https://doi.org/10.1590/0102-311XPT061523>
5. Larson HJ. *Stuck: how vaccine rumors start—and why they don't go away*. Oxford: Oxford University Press; 2022
6. Galhardi CP, Freire NP, Fagundes MCM, Minayo MCS, Cunha ICKO. Fake news and vaccine hesitancy in the COVID-19 pandemic in Brazil. *Cien Saude Colet*. 2022;27(5):1849-58. <https://doi.org/10.1590/1413-81232022275.24092021>
7. World Health Organization. Managing the COVID-19 infodemic: promoting healthy behaviours and mitigating the harm from misinformation and disinformation [Internet]. Geneva: WHO; 2020 [cited 2026 Mar 31]. Available from: <https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation>
8. Wang Y, McKee M, Torbica A, Stuckler D. Systematic literature review on the spread of health-related misinformation on social media. *Soc Sci Med*. 2019;240:112552. <https://doi.org/10.1016/j.socscimed.2019.112552>
9. Hernandez RG, Hagen L, Walker K, O’Leary H, Lengacher C. The COVID-19 vaccine social media infodemic: healthcare providers’ missed dose in addressing misinformation and vaccine hesitancy. *Hum Vaccin Immunother*. 2021;17(9):2962-2964. <https://doi.org/10.1080/21645515.2021.1912551>
10. van Kampen KR, Laski J, Herman G, Chan TM. Investigating COVID-19 vaccine communication and misinformation on TikTok: cross-sectional study. *JMIR Infodemiol*. 2022;2(2):e38316. <https://doi.org/10.2196/38316>
11. Lundy M. TikTok and COVID-19 vaccine misinformation: new avenues for misinformation spread, popular infodemic topics, and dangerous logical fallacies. *Int J Commun* [Internet]. 2023 [cited 2026 Mar 31];17:3364-3387. Available from: <https://ijoc.org/index.php/ijoc/article/view/19847>
12. Gomes CP, Fernandes SF, Pereira RMC, Moura NA, Sousa MLS, Hamerski KVS, et al. Causas da resistência à vacinação e o papel da enfermagem: revisão narrativa. *LEV* [Internet]. 2024 [cited 2026 Mar 31];15(41):5671-8. Available from: <https://periodicos.newsciencepubl.com/LEV/article/view/884>. <https://doi.org/10.56238/levv15n41-057>
13. Lewis M, Grantham S. From fork hands to microchips: an analysis of trending #CovidVaccine content on TikTok. *Int J Commun* [Internet]. 2022 [cited 2026 Mar 31];16:4337-4360. Available from: <https://ijoc.org/index.php/ijoc/article/view/18972>
14. Cinelli M, De Francisci Morales G, Galeazzi A, Quattrociocchi W, Starnini M. The echo chamber effect on social media. *Proc Natl Acad Sci USA*. 2021;118(9):e2023301118. <https://doi.org/10.1073/pnas.2023301118>

15. Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: a systematic review of empirical tests. Soc Sci Med. 2022;292:114523. <https://doi.org/10.1016/j.socscimed.2021.114523>
16. Braun V, Clarke V. Thematic analysis: a practical guide. London: SAGE; 2022
17. Cruz MED, Bessa L de LC, Ferreira GFS. O fenômeno de não vacinação infantil e sua análise a partir do perfil dos pais e dos motivos que guiam essa decisão: uma revisão integrativa de literatura. Braz J Health Rev. 2024 ;24;7(4):e71456. <https://doi.org/10.34119/bjhrv7n4-144>
18. Peres AL, Klemann D, Freire MHS, Lourenço RG, Khalaf DK, Wosnes TR, et al. Efeitos positivos das vacinas contra COVID-19: evidências científicas relacionadas às crianças e adolescentes. Enferm Foco. 2025;16:e2025014. <https://doi.org/10.21675/2357-707X.2025.v16.e-2025014>
19. World Health Organization (WHO). Immunization Agenda 2030: a Global Strategy To Leave No One Behind[Internet]. 2023[cited 2024 May 20]. Available from: <https://www.who.int/publications/m/item/immunization-agenda-2030-a-global-strategy-to-leave-no-one-behind>
20. Santos DF dos, Oliveira JO de, Vieira ACS, Santos RCS, Silva AMO de A da, Costa CRB. Factors associated with the permission for child vaccination in the context of the COVID-19 pandemic. Rev Gaúcha Enferm. 2023;44:e20220362. <https://doi.org/10.1590/1983-1447.2023.20220362.en>

Data and material availability

Access to the dataset is available upon request from the corresponding author.

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