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MISINFORMATION AND UNIQUE NARRATIVES ABOUT MENOPAUSE AND ANDROPAUSE IN INFOGRAPHIC DISCOURSE

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Abstract: This paper presents the research progress of a review of 50 public infographics circulating in digital media on menopause and andropause. The analysis incorporates a health communication perspective that posits that health and disease processes cannot be conceived without their social determinants (Romero and Sánchez, 2010; Petracci, 2012) and must therefore be understood as culturally mediated phenomena. The content analysis is designed based on Smiciklas' (2012) notion of visual narrative, which proposes that, in order to construct meaning for the public, the graphic elements used in an infographic must be organized in a logical, sequential, and pedagogical manner. From both perspectives, it is identified how the production of meaning (Yañes, 2007) of these hormonal processes is accompanied by gender stereotypes and biologicistic discourses and, ultimately, perspectives that do not break with these patterns of social construction of knowledge, let alone with multidisciplinary information for improving people's quality of life.

Keywords: Digital health, visual narrative, misinformation, social media, gender stereotypes.

INTRODUCTION

In the context of digital communication, the search for health information online has been on the rise. It is worth noting that this consumption is not homogeneous across the entire population, but rather presents distinctive patterns according to age, level of education, and gender, among other sociodemographic factors. For example, data shows that women are more likely to search for more information (Health and Medicine, 2023); by educational level, people with a university education are more likely to use this type of digital consultation than those with a secondary education or less; and by age, people between 18 and 49 years old have a higher prevalence

of searches (Fox, 2011; Fox and Dugan, 2013). In the case of older adults, it is reported that among people between 64 and 75 years of age, 39.9% of their searches are on health topics, and this drops to 14.6% when they are older than that age (Somos Digital, 2022). In this context, the digital divide in health issues that interfere with their quality of life can be noted (Basque Government, 2023).

Other factors, often interconnected, that lead people to turn to the internet for online health information are self-perception of the seriousness of their health situation, healthcare costs, waiting lists for medical care, quick and timely access, and mistrust of professional medical diagnoses. Frequently asked questions, although they vary depending on the location or context, for example, after the pandemic, were related to vaccines, mental well-being, and therapists, among others (Salud Digital, 2021). In this context of access to free data on disease descriptions and treatments, a new reality is emerging in which the information that internet users find "is vast and generally presented in a disorganized manner, largely without distinguishing reliable sources from others that provide data without evidence, which can often be detrimental to their health" (Carton, et al., 2024, p. 2).

In the case of climacteric and menopause, understood as a public health challenge in terms of population aging, Charlton pointed out in 2003 that the experience of menopause varied according to each woman's social context and her previous experiences related to menstruation and motherhood, which already challenged the hegemonic medical discourse. His approach focused on the silences, taboos, myths, and prejudices that women experienced at this stage of their lives and how menopause is experienced as a threatening process, influenced by negative experiences in the social, personal, public, and private spheres.

In 2008, Cañizales pointed out its profound economic, social, and health repercussions. Furthermore, she placed the feminization of aging at the center of the discussion, in which the particular needs of this sector are made invisible, for example, the conditions of poverty, isolation, and care overload faced by women who enter and live with this health condition. The author argued that from the perspective of bioanthropology and public health, comprehensive policies were urgently needed that went beyond the clinical view and considered non-hormonal determinants and cultural factors for their care, because although hormone therapy is a useful strategy, it is not the only one. Along the same lines, Romero and Sánchez (2010) pointed out that “menopause is an event that goes beyond the biological: in the medical field, it is conceptualized as a ‘disease’; this idea has been internalized socially and, therefore, negatively characterizes this stage and, in particular, adult women.” (p. 39)

The study by Alonso and Martínez (2015), aimed at improving the sexuality of women in menopause, similarly emphasizes the importance of a comprehensive approach to guidance and support that includes communication with one’s partner, a calcium-rich diet, adequate hydration, moderate physical exercise, and multidisciplinary health education on the usefulness of hormone replacement therapy (HRT). In other words, multidisciplinary information is required to improve the quality of life of women who are about to enter or are already in this stage of life, so that the non-medical context of this stage is no longer overlooked. Studies and information on andropause also point to the need for information on changes, identification of symptoms, and awareness of the importance of reducing uncertainty and bad habits (Alonso, 2024). Luo, Yu, and Kuang (2024) explore how andropause can be a challenge that requires an appropriate approach so that men can maintain good health, improve

their quality of life, and enjoy active aging.

Jarecka (2021), in assessing the onset and severity of symptoms associated with hormonal changes in men and women and finding similarities between male and female climacteric, points out that sexual disorders associated with menopause and andropause manifest themselves in both men and women in a decrease in sexual desire and interest in sex, as well as in difficulties in achieving sexual stimulation, although she clarifies that the statements made by women were slightly different from those made by men. At the same time, psychological symptoms vary by age group and, in general, although the symptoms are characteristic of hormonal changes, the processes of andropause and menopause differ in scope, dynamics, and consequences. Hence, once again, the importance of having multidisciplinary information and not just clinical information.

This overview highlights the need for narratives on andropause and menopause that highlight the accompanying social determinants, which are culturally mediated both in the information that is transmitted and in the medium that is used. Hence, the purpose of this research is to identify the production of meaning of these hormonal processes and whether gender stereotypes and biologicistic discourses are reinforced or whether new perspectives are being introduced that break with them.

INFOGRAPHICS: DIGITAL VISUAL NARRATIVES IN HEALTH COMMUNICATION

The concept of infographics continues to have a multitude of definitions. In terms of their characteristics, purposes, compositions, interests, and aims, there is no agreement among authors. However, it is possible to find some common ground. Venngage (2024) defines them as “visual representations

of information and data that facilitate the understanding of complex topics through graphic elements and text.” For Villate (2024), infographics should be understood as more than just a “pretty picture”; they are a profound resource that transcends the visual. And for Belenguer (1999), it is a graphic resource, image, or visual representation—integrating text and image—that replaces the written word to a certain extent in order to promote more efficient communication, thus transcending illustration. As can be seen, the three authors agree that infographics are a form of visual representation that combines text and image; that they serve a function of comprehension and communication, i.e., making information understandable, communicating beyond the aesthetic and promoting more efficient communication; and finally, that they are a hybrid visual representation whose main objective is to improve comprehension and communicative efficiency.

Similarly, there is no agreement on their characteristics, types, and purposes. Venngage (2024) mentions the following: a) synthesis and simplification of information, in that they condense the key points of a topic, “facilitating the understanding of complex processes” or the explanation of research results; b) visual effectiveness, as they seek to be creative and aesthetically appealing in order to maintain the interest of readers; c) memorability, because they contribute to improving information retention and promoting content recall; d) communicative versatility, meaning that they allow news, products, or services to be disseminated through different channels and become a strategic tool for generating interest and promoting interaction; and e) an educational and awareness-raising function, meaning that they can serve as a teaching tool for diverse audiences and as a means of raising awareness about specific issues.

Villate (2024) points out that different types of infographics—such as product, informational, scientific, biographical, process, chronological, research, and journalistic—serve a specific communicational purpose: to ensure that information is understood. Therefore, for the author, infographics imply a communicational responsibility, as they require choosing the best way to present the data so that the message is clear. For example, explaining that a figure is equivalent to half does not have the same impact as demonstrating it visually. The value of visuals, then, lies in the strategy of interpretation, synthesis, and effective transmission of data. Smiciklas (2012) argues that infographics should organize graphic elements in a logical, sequential, and pedagogical way to construct meaning for the audience.

It can therefore be said that the objectives shared by Venngage (2024), Villate (2024), and Smiciklas (2012) coincide are: to facilitate the understanding of information—by synthesizing and simplifying complex processes, as well as transmitting clear messages through logical and pedagogical organization—relying on a visual dimension as a communication strategy, in which the value of the visual is not only aesthetic but also strategic. In this way, the purpose is undoubtedly educational and oriented towards the construction of meaning. On this basis, infographics become a pedagogical and communicational tool to promote retention, clarity, and the generation of meaning.

A common denominator in the field of health is that infographics are one of the most widely used digital communication tools for conveying information in a clear, attractive, and accessible way. They are considered a visually powerful tool that combines accurate information with graphic impact, facilitating scientific communication and health education for different audiences.

In this context, it is important to mention

that, from the perspective of health communication, any resource or tool used to disseminate information, promote health literacy, and educate about health should be based on a social determinants approach (Rome-ro & Sánchez, 2010; Petracci, 2012), as this allows for an understanding of health and disease processes as culturally mediated phenomena. Criticism of the single medical discourse, which hides the psychosocial dimensions of the aging and sexualized body in men and women, is also considered. This means that any visual design cannot be framed within dominant biomedical frameworks and stereotypical representations of aging, gender, or the body, to mention fundamental aspects when addressing the issues of andropause and menopause. Thus, from the perspective of visual narrative as a methodology of meaning, we must study ways of conveying messages through images (Casona and Ruiz, 2017; Yañez, 2007). The figures of visual narrative are all those techniques and resources that affect the image, its ability to convey information, and its effectiveness in doing so, but within the framework of the construction of meaning.

METHODOLOGY

For the content analysis of the infographics, we used the analysis of *Visual Narrative Construction* (Smiciklas, 2012), that is, the structure that guides the reader through the information in a logical and attractive way and that leads—within the infographics—to the construction of meaning (Yañez, 2007) of the infographic reality about menopause and andropause. The content analysis focused on thematic and descriptive elements to determine the meaning constructed about the reality of this health condition and those who are experiencing it. This was done to determine the forms and content used to obtain the interest and understanding of the public. It is

understood that the construction of meaning must also facilitate the understanding of the complex topic through an introduction to the problem, followed by key data and concluding with recommendations through the outline. The corpus analyzed consisted of 50 infographics selected through purposive sampling: 20 on menopause, 20 on andropause, and 10 mixed, collected between January and March 2025 on Pinterest, Facebook, Instagram, websites, and blogs. Thematic content analysis was applied for the construction of meaning (Yañez, 2007) and visual narrative analysis (Smiciklas, 2012).

RESULTS

From the perspective of the composition and design of the infographics on andropause, it can be said that they are aimed at men aged 40 and 50, complying with the definition of the topic and audience as suggested by Krum (2013) (see Table 1). The accuracy of the information is essential, which is why some infographics include scientific and statistical data, which supports their credibility, according to Thoma, et al. (2018). The incorporation of this data is a discursive mechanism of authority to validate the information. The graphics, icons, and colors used are appropriate for effectively representing key data and concepts, aligning with Cairo's (2016) recommendation on the appropriate selection of visual elements. Similarly, the design and composition of the infographics on menopause are aimed at women in their 40s and 50s who are entering this stage of their lives, implying that they are targeting a specific audience (Krum, 2013). (See Table 1) The information is tailored to an audience seeking to understand the symptoms, phases, and care required during menopause. The infographics include data from recognized health organizations, are based on solid scientific data, and use a visual narrative that guides the reader through the different aspects of meno-

pause, from symptoms to recommendations for maintaining health (Smiciklas, 2012).

Both segments of the infographics use bar charts, flowcharts, icons, and female figures to illustrate hormonal changes and their effects to ensure the credibility and accuracy of the information presented (Thoma, et al., 2018). This facilitates visual understanding of the topic (Cairo, 2016). Comparative infographics between andropause and menopause seem to provide a more inclusive and balanced perspective. However, they are limited to symptomatic elements.

Some examples of how menopause and andropause are defined in infographics, transcribed verbatim, are:

Menopause	Andropause
<ul style="list-style-type: none">• Menopause, the end of menstruation, but it does not mean it is a disease• Menopause is a physiological period in a woman's life caused by hormonal changes• This is the change from a reproductive state to a non-reproductive state. It is the last period in a woman's life.• Menopause is a difficult stage in a woman's life, as it is a hormonal change that affects her entire body.• Menopause is the age at which the last spontaneous menstruation occurs and is considered definitive when six months pass without another period.	<ul style="list-style-type: none">• It consists of a decrease in a man's sexual capacity, along with other physiological and cognitive functions.• Decrease in testosterone.• Hormonal changes related to aging in men.• The years do not pass in vain, and in a man's life there are not only changes in attitude and habits, but also physiological changes that occur with the onset of andropause, the process that begins in the fourth decade of life, when a man's sexual abilities decline as testosterone levels decrease.

Table 1. Definition of menopause and andropause in infographics
Source: own elaboration.

Although it can be said that both infographics on menopause and andropause are clear and well-organized in terms of information—because both have an “explanatory” tone regarding the stages or changes—it can be observed that menopause emphasizes the “difficult stage,” while andropause presents more of a description of the “physiological process.” This undoubtedly leads to an emotionally conditioned interpretation, as it can be said that there is greater stigmatization of the female process than of the male process. The neutral or even sympathetic discourse towards male aging, “the years do not pass in vain,” as something natural and expected, means that it is not pathologized or presented as a “crisis,” but rather gives rise to a more adaptive or resilient narrative. Although it is focused on virility. The focus on the loss and end of fertility, in the case of menopause, anchors the narrative in the biologization of the female body.

The construction of meaning can be framed within these graphic tools in a normalization of male aging linked to a hormonal decline, as opposed to a pathologization of “the end” (of the cycle, of fertility, of the period), that is, a loss of functionality, accentuated by the description as a “difficult stage” and where the female body loses value or functionality. The meaning revolves around reproduction as the axis of female identity as opposed to sexuality and sexual performance of male identity. Both are treated pejoratively, reinforcing traditional social stereotypes and imaginaries about gender roles: women associated with fertility and men with active sexuality.

Returning to the perspective of visual narrative (Smiciklas, 2012) and the construction of meaning (Yañes, 2007), it can be concluded that there is a construction of asymmetrical and biased narratives about menopause and andropause. This is despite the fact that they have an orderly formal structure. The

linguistic selection, thematic focus, and emotional charge highlighted in the infographics not only reinforce gender stereotypes but also promote an unequal reading of the aging processes in men and women. Therefore, it is necessary to balance the narrative to avoid both the pathologization of the female body and the idealization of the male body at these stages.

In addition to the definitions of the hormonal processes associated with both andropause and menopause, a second aspect was how the infographics present a structure that logically guides the reader through the symptoms, highlighting the importance of a narrative constructed to maintain interest and understanding, as mentioned by Smiciklas (2012). The symptoms, although they have a strong presence in the infographics, also differentiate in some aspects. In Table 2, in which the symptoms mentioned have been transcribed verbatim, it can be seen that symptoms related to changes in sexuality and intimate life, cardiovascular and metabolic health, dermatological and bodily symptoms, musculoskeletal symptoms, neurological symptoms, cognitive symptoms, vasomotor symptoms, and general discomfort are mentioned. It should be noted that the categories were identified through content analysis; the infographics only mention the symptoms without categorizing them.

Categories	Symptoms	Observations
Cardiovascular and metabolic health	Narrowing of the arteries, irregular heartbeat, high glucose levels, low cholesterol levels, and high cholesterol levels	Cardiovascular conditions appear more frequently in information pieces on andropause, highlighting their link to aging.
Skin and body changes	Dry skin and loss of thickness. Weight gain and fat accumulation in the abdominal area Skin spots Weakened hair and brittle nails	It is common to include aspects related to weight gain, although this is more noticeable in infographics on menopause. This aesthetic aspect is also mentioned in some cases of andropause.
OLD AGE Musculoskeletal changes	Joint pain, muscle pain, osteoporosis	Musculoskeletal changes, neurological and cognitive symptoms, as well as general and vasomotor symptoms are referred to in the graphic pieces analyzed as part of "old age."
OLD AGE Neurological and cognitive symptoms	Headache, memory loss, insomnia, dizziness,	
OLD AGE General and vasomotor symptoms	Breast pain, tiredness, fatigue, digestive problems, hot flashes, night sweats, urinary incontinence	

Table 2 Symptoms associated with menopause and andropause in the infographics

As Romero and Sánchez (2010) point out, it is common for people to think that menopause only has biological and psychological repercussions, however, there are consequences in the social sphere that can be even more significant. It is through social discourse that adult women going through menopause have been categorized, stigmatized, and stereotyped through hegemonic discourses about this experience. Infographics, together with hegemonic discourses from pharmaceutical companies, health institutions, medical associations, governments, educational institutions, and medical blogs, permeate the scientific discourse on both menopause and andropause.

Table 2 reveals an organization of symptoms that respond to a biomedical logic that

Categories	Symptoms	Observations
Changes in sexuality and intimate life	Sexual desire, loss of libido, difficulty reaching orgasm, loss of arousal	Loss of libido is a symptom that is most frequently mentioned in infographics on andropause. Loss of arousal and difficulty reaching orgasm are only mentioned in two infographics on menopause.

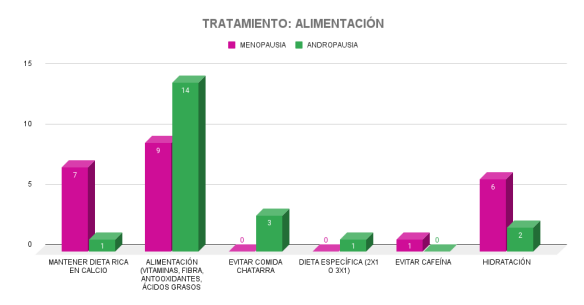
renders invisible the sociocultural dimension of health and disease processes. As mentioned, according to Yañes (2007), infographics not only inform but also construct meaning about the reality being reported. As can be seen from the symptoms identified, this selection, categorization, and the language used guide the reader toward an individualized and biologicistic understanding of aging that is disconnected from affective, economic, or cultural contexts.

From the perspective of the determinants of health proposed by Petracci (2007), it is clear that infographics do not consider the structural factors that condition the way in which these experiences are lived and understood. By focusing attention on isolated and universal physical symptoms, the influence of variables such as socioeconomic status, education, access to health systems, or support networks is erased. For example, the approach to sexuality is limited to the loss of desire or function, without exploring how gender inequality, medicalization, or age stigma affect the experience of intimacy in older adulthood. Thus, bodies appear decontextualized, as homogeneous biological entities, without history or material conditions that explain their evolution. If we add to this the fact that loss of virility is the main focus of infographics on andropause, we can say that hegemonic imaginaries are presented, such as women as aesthetically deteriorated bodies and men as functional subjects in sexual decline.

A third aspect identified in the analysis was the recommendations or treatments suggested for the health situation. The following categories were identified: diet, medical follow-up, coping or support strategies, physical activities, and habits. It can be anticipated that gender biases are maintained within these categories.

Graph 1, related to dietary treatment or monitoring, shows how there is an unequal

distribution in the way both health situations are addressed. Although both processes are mediated by hormonal and metabolic changes, the representation of their nutritional needs does not follow proportional or equivalent criteria. First, in the case of menopause, there is a greater emphasis on specific recommendations such as maintaining a calcium-rich diet (7 mentions) and hydration (6 mentions), elements associated with the prevention of osteoporosis and aesthetic care, respectively. In contrast, infographics on andropause emphasize the consumption of vitamins, fiber, antioxidants, and fatty acids (14 mentions), which points to a more technical and functional approach to the male body.



Graph 1. Treatment: diet

Furthermore, differences in elements such as avoiding junk food (only mentioned in andropause) or avoiding caffeine (only in menopause) may point to how dietary discourses are constructed with gender-differentiated attributions of self-control. In terms of the social determinants of health (Petracci, 2007), this visual treatment obscures structural factors such as unequal access to healthy foods, economic conditions, caregiving burdens, and sociocultural limitations that differentially affect those undergoing these hormonal processes.

In terms of medical follow-up, a gender-differentiated biologicistic and medicalizing logic can be identified. Figure 2 shows that infographics on menopause contain a high concen-

Hormone replacement therapy is much more associated with andropause (7 mentions) than with menopause (3 mentions), even though female hormone therapy has historically been more widely used. Furthermore, it is noteworthy that only the infographics on andropause mention medical advice for preventing hot flashes and muscle exercises, which reaffirms the functional assessment of the male body from the perspective of physical performance.

[illegible]

A third point to highlight from the graph is that the recommendation to use serotonin reuptake inhibitors appears only in the pieces aimed at menopause (1 mention), reinforcing the association between mental health and feminized bodies. In contrast, articles on andropause refer to behavioral therapies for emotional changes and adherence to treatment, which points to the construction of an image of men as subjects who need rational

It is also noteworthy that in both cases, social determinants that condition real access to these treatments are omitted, reproducing an idealized model of a patient with resources, information, and available time that excludes historically marginalized groups (rural residents, transgender people) and does not consider the structural conditions that mediate access to treatment and continuity of care, to mention a few aspects.

TRATAMIENTO: ESTRATEGIAS DE AFRONTAMIENTO

Estrategia de Afrontamiento	Menopausia	Andropausia
BÚSQUEDA DE NUEVAS EXPERIENCIAS	1	1
PRÁCTICA DE SEXUALIDAD AVANZADA Y GRATIFICANTE	2	0
VINCULO DE NUEVAS EXPERIENCIAS CON LA PAREJA	2	0
NO BUSCAR EMOCIÓN EN ACTIVIDADES PELIGROSAS	0	0
REDIRIGIR A LOS PACIENTES Y A LOS ALLEADOS SOBRE SÍNTOMAS	1	0
ACTITUD POSITIVA	2	0

In particular, menopause appears to be associated with suggestions such as “practicing enjoyable and rewarding sexuality” (2 men-

tions), “experiencing new things with your partner” (2 mentions), “having a positive attitude” (2 mentions), and even “educating patients and loved ones about symptoms” (1 mention). Although these proposals can be considered valuable from a comprehensive approach, they are absent from representations of andropause, which constructs a sense of a rationalized and desensitized male subject, without explicit emotional needs or processes of affective resignification. This “omission” could be fueled by gender stereotypes that give emotional meaning to the feminine and rational meaning to the masculine.

From the perspective of Yañez (2007), the meaning constructed from the visual narrative points to the idea that women must adapt emotionally and relationally to hormonal changes, often taking responsibility for their own well-being and environment, while men are represented as subjects whose experience is essentially medical, technical, or physiological. From the perspective of the social determinants of health (Petracci, 2007), the coping approach suggested for menopause renders the structural invisible and focuses on the attitudinal.

In conclusion, it can be said that there is a single discourse on menopause and andropause in which there is no recognition of the social and bodily experience of these conditions.

As a result of the analysis, it can be determined that the type of discourse on menopause and andropause circulating through infographics on social media and websites reproduces the biological discourse on health, where the symptoms of the disease are important. Furthermore, information trends on menopause and andropause seek recognition of symptoms, stages, and diagnoses.

CONCLUSIONS

The infographics analyzed reveal a dominant tendency toward the reproduction of linear and reductionist structures of menopause and andropause, focused exclusively on symptoms, diagnosis, and treatments, without considering or contextualizing the psychosocial, emotional, and cultural aspects that also form part of the configuration of these health experiences, and without taking into account social determinants. Thus, it can be said that these infographic narratives present a linearity that limits the holistic understanding of health-illness-care processes and reinforces the idea that the body, in these stages, requires a mechanistic, logical approach isolated from its environment and subjective dimension. The construction of meaning is therefore reduced by the reliability of the information due to the type of data and approach presented—a hegemonic biomedical approach—which leaves no room for the collective construction and circulation of knowledge that is situated and respectful of differences.

By prioritizing specialized medical language to provide scientific legitimacy, these infographics exclude sectors of the population that do not have technical training in health, which breaks with some of the characteristics that this type of information strategy should avoid. These choices in the construction of meaning reinforce the communicational asymmetry between the senders of information (psychologists, doctors, institutions) and audiences (patients, the general public), thus weakening their pedagogical capacity to educate and promote health literacy.

From a visual standpoint, the use of stereotypical icons that perpetuate normative representations of gender is striking. The differentiated and stereotypical use of colors such as pink for menopause and blue for andropause not only simplifies and binarizes gender identities but also continues to reproduce stereo-

types of how to deal with this health situation in adults. In addition, hegemonic figures are replicated in terms of race, age, and body type, reinforcing health models even at this stage of life.

Some pieces contained sexist narratives, such as the idea that male infidelity is a consequence of andropause. This type of narrative and construction of meaning reinforces patriarchal stereotypes and pathologizes behaviors from a simplistic biological logic. Although these are questionable pieces of communication—both in their content and in the meaning they seek to reproduce—they are communicational elements that contribute to the reproduction of symbolic violence in the field of health.

It can be said that one of the most significant findings of this study is that the infographics reviewed do not constitute an inclusive or pedagogical visual narrative, but rather a reproduction of hegemonic medical frameworks. The communicative potential of these tools is compromised by the lack of articulation between form and content. Gender, age, and class bias are expressed visually.

Overall, it is considered that the field of

infographics in healthcare has not succeeded in establishing itself as an inclusive, critical, or pedagogical tool or strategy. Its capacity is compromised by the disconnect between form and content, as well as by gender biases that are visually manifested through the graphic decisions made. In other words, visual and discursive representations do not constitute an inclusive and situated narrative; on the contrary, they contain a series of limitations that prevent them from addressing the complexity of the experiences associated with menopause and andropause.

Finally, it is considered necessary to promote education and critical literacy in health for health, communication, and design experts to enable the creation of ethical health materials with a rights-based approach and informational justice. There is also an urgent need for education in critical reading of health information that allows people not only to access information but also to question it, contextualize it, and appropriate it from contexts that are accessible to their realities and that dignify and accompany bodily experiences in adulthood.

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