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Desinformación sobre dieta y nutrición en las redes sociales: revisión de la literatura

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ABSTRACT

Background: social networks have become indispensable for global communication, offering unparalleled access to information. However, the lack of content regulation has allowed health and nutrition misinformation to thrive, posing significant public health risks.

Objectives: this study aimed to identify the social networks most frequently used for spreading nutrition-related misinformation and evaluate the primary topics, including diseases and dietary claims, featured in these messages.

Methods: a systematic review of the literature was conducted, analyzing studies focused on nutrition-related misinformation across platforms such as Twitter, Instagram, TikTok, and YouTube. Data collection adhered to PRISMA guidelines, and findings were synthesized narratively to address the study objectives.

Results: this study analyzed 28 documents focusing on nutrition-related misinformation on social networks. Instagram (50 %) and YouTube (39.28 %) were identified as the most prevalent platforms for spreading such content, followed by TikTok (5.13 %) and Twitter (10.72 %). Over 62 % of the reviewed studies addressed misinformation linked to miracle diets, often associated with orthorexia (14.28 %) and COVID-19 (14.28 %). These diets frequently included unverified claims of rapid health improvements. Notably, credible nutrition content was predominantly shared by healthcare professionals and academic organizations, highlighting their key role in fight against misinformation.

Conclusions: misinformation about nutrition on social networks is a growing public health concern. Public health institutions must implement strategies to improve digital literacy and provide tools for assessing information credibility. Healthcare professionals should leverage social media to disseminate evidence-based knowledge, counteracting the influence of unreliable sources. Collaborative efforts are essential to ensure social networks serve as platforms for reliable health promotion and education.

Keywords: Diet. Health disinformation. Healthcare professionals. Nutrition. Public health. Social networks.

RESUMEN

Antecedentes: las redes sociales han desempeñado un papel esencial en la difusión de información relacionada con la nutrición durante años.

Los usuarios pueden seguir cualquier cuenta y ver el contenido publicado por los usuarios que siguen. El principal problema con la información difundida a través de las redes sociales es la falta de calidad y fiabilidad. En los últimos años ha habido una creciente preocupación en la población por la alimentación y la dieta. El aumento del uso de las redes sociales, combinado con la preocupación de la gente por su nutrición o dieta, ha llevado a un aumento significativo de las búsquedas relacionadas con la alimentación en las redes sociales.

Objetivo: a través de una revisión de la literatura, este estudio examinó el uso de las redes sociales en relación con la desinformación sobre dieta y nutrición.

Métodos: este estudio siguió las pautas de PRISMA. Se realizaron búsquedas en las bases de datos Medline, Web of Science y Scopus el 14 de diciembre de 2022. Nos centramos en la desinformación sobre nutrición en las redes sociales, como Twitter, TikTok, Instagram, YouTube y Facebook.

Resultados: se analizaron un total de 28 artículos para comprender la influencia de las redes sociales en la nutrición. Los resultados destacan Instagram (50 %) y YouTube (39.28 %) como las redes sociales predominantes, lo que sugiere un cambio desde los medios tradicionales. La desinformación es generalizada (100 %) y los usuarios difunden prácticas no verificadas, especialmente en Instagram (64.70 %). El auge de las dietas milagro es preocupante, con COVID-19 (14.28 %) y la ortorexia (14.28 %) recibiendo la mayor atención. La ortorexia está vinculada a la difusión de desinformación, lo que exacerba su prevalencia. Además, el análisis revela cambios en los patrones dietéticos, generando preocupación por la disminución de la popularidad de la dieta mediterránea.

Conclusión: la desinformación sobre nutrición, a través de las redes sociales, se está convirtiendo en un grave problema de salud. En nuestro estudio hemos encontrado que una gran parte de los artículos incluidos

estaban relacionados con dietas milagro, pero también difundían mensajes sobre, supuestamente, superalimentos que pueden ayudar a curar enfermedades como COVID-19 o la ortorexia. Esta situación debe ser vista como un importante problema de salud pública que debe ser abordado y combatido por las instituciones de salud, así como por los profesionales de la salud.

Palabras clave: Dieta. Desinformación sanitaria. Profesionales sanitarios. Nutrición. Salud pública. Redes sociales.

INTRODUCTION

The Internet has become the largest and fastest-growing source of health information, with millions of individuals conducting daily searches (1-3). Unlike traditional media such as newspapers, radio, or television, the Internet and social media platforms enable active participation in the communication process, fostering connection and engagement among users (3,4). These platforms wield significant social influence, empowering users to express opinions on critical issues and shaping attitudes and perceptions on a broad range of topics (5).

Platforms such as X (formerly Twitter), TikTok, Instagram, and YouTube have emerged as powerful tools for sharing information, engaging in political discourse, discussing healthcare practices, promoting health behaviors, and connecting with diverse audiences, including patients, caregivers, students, and healthcare professionals (6). Their ability to rapidly disseminate information and mobilize large groups enhances progress toward public health objectives, positioning social media as an essential medium for health education (5,6). Among these platforms, microblogging networks like Twitter are especially noteworthy for their real-time updates, brief format, and unique capacity to support social

interaction (7). These platforms serve as a critical source of big data for public health researchers, facilitating the analysis of crowd behaviors, monitoring health trends, and even predicting disease outbreaks (8,9).

Understanding the distinction between social media and social networks is fundamental. Social media encompasses a broad range of digital tools, platforms, and strategies that enable interaction and content sharing, including blogs, forums, and video platforms. In contrast, social networks are specific online platforms, such as Facebook, Instagram, and LinkedIn, designed to foster connections and content exchange among users with shared interests (10). Microblogging platforms, like Twitter, offer a dynamic environment for the rapid exchange of concise updates and are a particularly valuable resource for public health research due to their accessibility and real-time content.

The widespread use of social media has also amplified discussions around food and diet, reflecting growing public concerns about long-term health risks associated with nutrition. Studies reveal that 60 % of individuals are increasingly worried about these risks (11). This heightened awareness, combined with the pervasive use of social media, has fueled a significant rise in food-related searches across platforms (12-14). However, the quality and reliability of health information shared on these platforms remain critical challenges. The interactive nature of social media exacerbates the spread of misinformation—false information shared by individuals who believe it to be true—and disinformation—intentionally false information shared to mislead others (6,15,16).

Instagram, for instance, pioneered the integration of visual content into digital marketing strategies, enabling users to discover and interact with images more effectively. Similarly, YouTube, the second most visited website globally as of 2017, provides a user-friendly platform for sharing videos (1). TikTok, as the preferred social network to millions of young users to create, share, and comment on videos worldwide (17,18).

Despite these advantages, the potential for misinformation dissemination underscores the need for vigilance and quality control on these platforms.

This review synthesizes findings from over 182 studies on diet and misinformation across Twitter, Instagram, YouTube, and TikTok, encompassing more than 2 million Instagram posts, 1,000 YouTube videos, and 46,000 tweets. The primary objective is to characterize existing research and develop a taxonomy to i) identify the social networks most frequently associated with spreading misinformation, and ii) evaluate the predominant themes used in disseminating this information.

METHODS

We conducted a systematic review of the literature, in which the preferred reporting items for systematics reviews and meta-analyses (PRISMA) (19).

The aim was to review the available international literature on the use of social media and the potential impact on diet and nutrition disinformation. In addition, this work highlights possible risks found, identify signs of dangerous use, and provide recommendations based on these findings.

Search methodology

To identify relevant studies, a literature search was conducted covering a wide range of published health-related research from the following databases: Medline, Web of Science and Scopus. The time frame studied included articles published from 1st of January 2017 to 30th June 2024.

The search terms used in the different databases were focused on obtaining the appropriate result to answer the objectives set out in this study, these are as follows: terms used for nutrition included "nutrition" OR "nutrition facts” OR “diet” OR “diets”, On the other hand, search

terms related to social networks included: "social networks" OR "Twitter" OR “X” OR "TikTok" OR “X” OR "Instagram" OR "YouTube" OR "Facebook".

Inclusion and exclusion criteria

Studies eligible for inclusion in the review were retrieved according to predefined criteria. It is important to highlight that articles that did not meet all these criteria were excluded (Table I).

Selection of articles

After retrieving the studies from the databases, duplicate reports were removed, and the titles and abstracts of the remaining articles were screened to exclude studies that did not meet the eligibility criteria. To avoid error and bias, three independent researchers conducted the review process to identify articles that met the inclusion criteria (SSF, BJG and PJJH), using the Zotero bibliographic reference manager, which allows for the detection and elimination of duplicate articles (20). Titles and abstracts were then analyzed to exclude irrelevant articles. Finally, the full texts were evaluated using PRISMA criteria, to determine whether the articles met the eligibility criteria. During this selection phase, any disagreements among the investigators were resolved by discussion and consultation with a reviewer who was not actively involved in the study selection (IHP).

Article classification

After selecting relevant articles, these were analyzed following 4 criteria: i) manuscript’s focus, ii) pathology/disease addressed in the manuscript, iii) use of social network, iv) health information.

Due to the heterogeneity of the studies included in this paper, a narrative synthesis was conducted according to these criteria: a content analysis was performed with the aim of obtaining information about the

focus of the manuscripts, the social networks included, and the disease/pathology or situation associated with health and nutrition describe in the manuscripts. Finally, about the “health information” criteria, an analysis of the manuscripts was performed to explore how the health disinformation or information that is not based on scientific evidence, were analyzed.

Finally, we grouped the articles into two categories: i) articles focused on miracle diets and ii) articles focused on health disinformation or non-verified health information.

RESULTS

Selection of sources of evidence

Our search initially identified 673 articles within the 3 databases. After removing duplicates, a total of 548 articles were screened to determine if they met the eligibility criteria, finally 487 articles were removed for not meeting these inclusion criteria, leaving 61 articles to be analyzed by reading the full text (Fig. 1).

The selected articles were divided into two main categories: on the one hand, papers dealing with miracle diets and associated misinformation (Table II). On the other hand, the documents that analyzed the misinformation disseminated through social networks about food without being associated with miracle diets (Table III).

A total of 18 articles (62.06 %) were found that were categorized as studies that addressed the relationship between nutrition, the emergence of miracle diets and the misinformation generated among users who consume information about miracle diets through social networks.

General description of results

The most frequently mentioned social media were Instagram (50 %), YouTube (39.28 %), and Twitter (10.72 %). On the other hand, the least mentioned social media were Facebook (18.75 %) and TikTok (5.13 %).

It is striking that the most widely used social network in the world, Facebook, is in this case one of the least used for sharing information related to nutrition. On the other hand, the most relevant are Instagram or YouTube, social media focused on sharing videos or audiovisual material. Therefore, this feature becomes relevant when getting information across to the public (21).

Regarding the misinformation that exists on the platforms analyzed in the different articles, we observed that 100 % confirm the existence of misinformation on diets and health. The approach to this misinformation in the different articles is quite similar, as they all deal with the increasing amount of content shared by channels or users not related to the health field, without following any scientific method or contrasting the information posted (22-33).

Nevertheless, there are also articles which analyze this context of misinformation in greater depth. One of these articles' links misinformation to the promotion of some brands by Youtubers (22). The case of these content generators is analyzed in another article, revealing that up to 87.3 % of the accounts analyzed on Instagram provide unhealthy nutritional information (23). We see the importance of these new profiles dedicated to sharing information on social media, and how they do not always seek veracity in the shared content, but to achieve relevance. One of the articles goes so far as to associate the utilization of some content to attract women with low self-esteem (22).

This can be seen in the article by Bradley P., which analyzes publications that have low veracity, but still, they get more views and likes (23). This may explain why in the results of this review we find 100 % of the articles that talk about misinformation.

In these 29 articles we found different pathologies, highlighting two of them above the rest: COVID-19 (14.28 %) and orthorexia (14.28 %). Other pathologies that appeared were acne, gout, osteoporosis, renal disease, diabetes, irritable bowel syndrome and celiac disease. (Tables II and III).

Diet is a key and very important element for people's health (24). It is important to distinguish attempts to distort the information, to deceive the population with diets claiming to cure different conditions in a short period of time, without providing any scientific evidence. These types of diets, colloquially called 'miracle diets'—although they are also referred to using many euphemisms such as “superfoods” or “healthy diets”—are present in 18 of the 29 studies analyzed.

Miracle diets and misinformation

These studies address miracle diets in different ways, such as claiming that they can help you boost your immune system, along with the advertisement for a brand of supplements, (25) or how to protect yourself from COVID-19 by taking vitamins or cooking meat in a particular way (26) (Table II).

In all, 64.70 % of the studies advocating for these miracle diets are linked to the social network Instagram, 41.17 to YouTube, 29.41 % to Twitter and 21.12 % to Facebook (Table II).

It is observed that social networks that use videos and images as the primary means of communication are the most common. Likewise, it is noteworthy that the most used social media to share this kind of information are those platforms designed to share information along with images and sound.

When it comes to miracle diets, there is no pattern with respect to the various pathologies mentioned above, and they are present in infectious diseases as well as in chronic diseases. The articles in which these diets are discussed cover diseases as diverse as acne, COVID, gout or diabetes.

However, it is noteworthy that in 100 % of the articles in which orthorexia is mentioned, miracle diets are also present (27-30). There seems to be a link between this disorder, which is characterized by an unhealthy obsession with food quality, and the promotion of diets that are not always scientifically based, taking advantage of people suffering from this condition (27) (Table II).

Misinformation about nutrition on social networks

These studies address misinformation in nutrition observed from different pathologies and social networks such as how information about kidney disease (34,35), celiac disease (36,37), or irritable bowel syndrome (38) are treated with nutrition (Table III).

In all, 54.54 % of the studies are linked to the social network YouTube, the same as Twitter. Furthermore, 27.27 % of the studies are related to Instagram while Facebook only has 11.75 % of the articles (Table III).

Likewise, we can observe that social networks that use videos and images as the primary means of communication are the most common. Also, 18.18 % of the articles focus on the role of influencers in diet, although in one article we can see how social networks are misused to encourage consumers to consume dietary supplements to achieve quick and easy results in fitness (22), while in another one the Instagram community relates the term “healthy food” with a healthy lifestyle, fitness, and diet (39). One of the studies analyzed the accounts of different celebrities, who recommended less healthy food and beverages based on nutrition scores in 87.3 % of the cases (23) (Table III).

There is no pattern with respect to pathologies and misinformation, which is present in infectious diseases as well as in chronic diseases. There is also no pattern regarding the social networks in which the most misinformation is shared (Table III)

Through the analysis of the eating patterns, we observed how are changing in recent years. On the one hand, we have the hoaxes that we see on different social networks and how they can affect people's diet (39) and even make their health condition worse as they are not quality information (34). We can also see how sometimes this information if verified, can raise awareness among the lifestyle population and make them improve it (40). Finally, we can even observe how the Mediterranean diet has been generating less interest over the last few years (40) (Table III).

DISCUSSION

Principal findings

This study aimed to review the current literature on the dissemination of nutrition-related misinformation on social networks. The objectives were: i) to identify the social networks most frequently used for spreading this misinformation, and ii) to evaluate the main topics, including diseases and dietary claims, utilized in these messages.

In addressing the first objective, the findings indicate a predominant use of audiovisual social networks such as Instagram, YouTube, and TikTok for spreading nutrition-related misinformation. These platforms, which emphasize visual and interactive content, appear to attract younger audiences, particularly those under 30 years old, who engage more actively with these mediums. This shift from text-based to audiovisual platforms has been previously noted in the literature, reflecting changing user preferences and the platforms' suitability for conveying engaging yet unverified content (1,18,21). The ease of access, coupled with minimal content regulation, amplifies the spread of misinformation, particularly on topics such as diets and nutrition (50,51).

Regarding the second objective, the study highlights two major themes within the misinformation disseminated on social networks: miracle diets and general dietary misinformation related to specific pathologies. Miracle diets were frequently associated with claims of rapid health improvements, such as immune system enhancement or COVID-19 prevention, without scientific backing (25,26). Particularly concerning is the strong link between miracle diets and orthorexia, with 100 % of studies mentioning orthorexia also referencing miracle diets. This underscores the exploitation of vulnerable populations by promoting unrealistic dietary ideals under the guise of health benefits (27,30).

The results also reveal the proliferation of misinformation during public health crises, such as the COVID-19 pandemic. For example, during the pandemic, a surge in misinformation about diets aimed at preventing or curing COVID-19 was observed on platforms like Instagram and Twitter (26,33). This highlights the dual role of social networks as both sources of valuable information and breeding grounds for unverified claims. Importantly, nutrition-related content from credible sources, such as dietitians and healthcare organizations, was found to be more accurate, emphasizing the need for increased visibility of these voices (33,34).

Implications for public health

The widespread dissemination of misinformation on social networks poses a significant public health challenge. Users often lack the necessary tools to critically evaluate the credibility of the information they encounter. As a result, low-quality content, such as posts advocating miracle diets or unverified health claims, garners significant engagement, potentially influencing user behaviors and perceptions negatively (22,23).

Public health institutions and healthcare professionals play a crucial role in combating misinformation. These entities should prioritize creating and promoting accessible, evidence-based content on social media to counteract false narratives. Additionally, targeted interventions, such as digital literacy programs, can empower users to discern credible information from misinformation.

Limitations and strengths

This study's limitations include its focus on English-language articles and the selected social media platforms, which may exclude broader trends. Additionally, the heterogeneity of methodologies and data collection processes among the reviewed studies posed challenges in synthesizing the findings. Future research should explore the underlying motivations for disseminating misinformation and evaluate the effectiveness of interventions aimed at mitigating its impact.

Despite these limitations, the study's strengths lie in its comprehensive analysis of multiple social networks and pathologies, offering a nuanced understanding of the issue. By including studies from various platforms and focusing on diverse diseases, this review provides a robust foundation for addressing the challenges posed by nutrition-related misinformation on social networks.

CONCLUSIONS

Social networks have revolutionized global communication, offering unprecedented access to information. However, the absence of rigorous content oversight has made misinformation a pervasive issue, particularly in topics as critical as health and nutrition. This phenomenon has been compounded by the public's growing reliance on these platforms as primary sources of health information.

Our analysis underscores that nutrition is integral to human health and a subject widely discussed across platforms like Twitter, Instagram, TikTok, and YouTube. Consequently, these discussions are often influenced by misinformation, as evidenced by the prevalence of miracle diets in more than half of the studies reviewed. These diets, which promise quick results with minimal effort, pose significant public health risks, including the exacerbation of conditions like orthorexia and the spread of unverified claims about disease prevention, such as COVID-19.

This study brings to light a critical public health challenge: the widespread acceptance and influence of misinformative content on social networks. Public health institutions must take proactive measures to address this issue, including developing accessible tools to help users evaluate the credibility of the information they consume. These efforts should be complemented by targeted campaigns to promote digital literacy and critical thinking skills among the public.

Healthcare professionals also have a pivotal role to play on control of disinformation, in example establishing a strong presence on social media, they can disseminate accurate, evidence-based information and counteract the spread of false narratives. Embracing these platforms as allies rather than adversaries will enable professionals to reach broader audiences and foster informed, health-conscious communities.

Wherefore, tackling misinformation on social networks requires a concerted effort from public health authorities, healthcare professionals, and the platforms themselves. Only through collaborative action can we

ensure that social networks serve as a source of reliable information and a tool for promoting public health.

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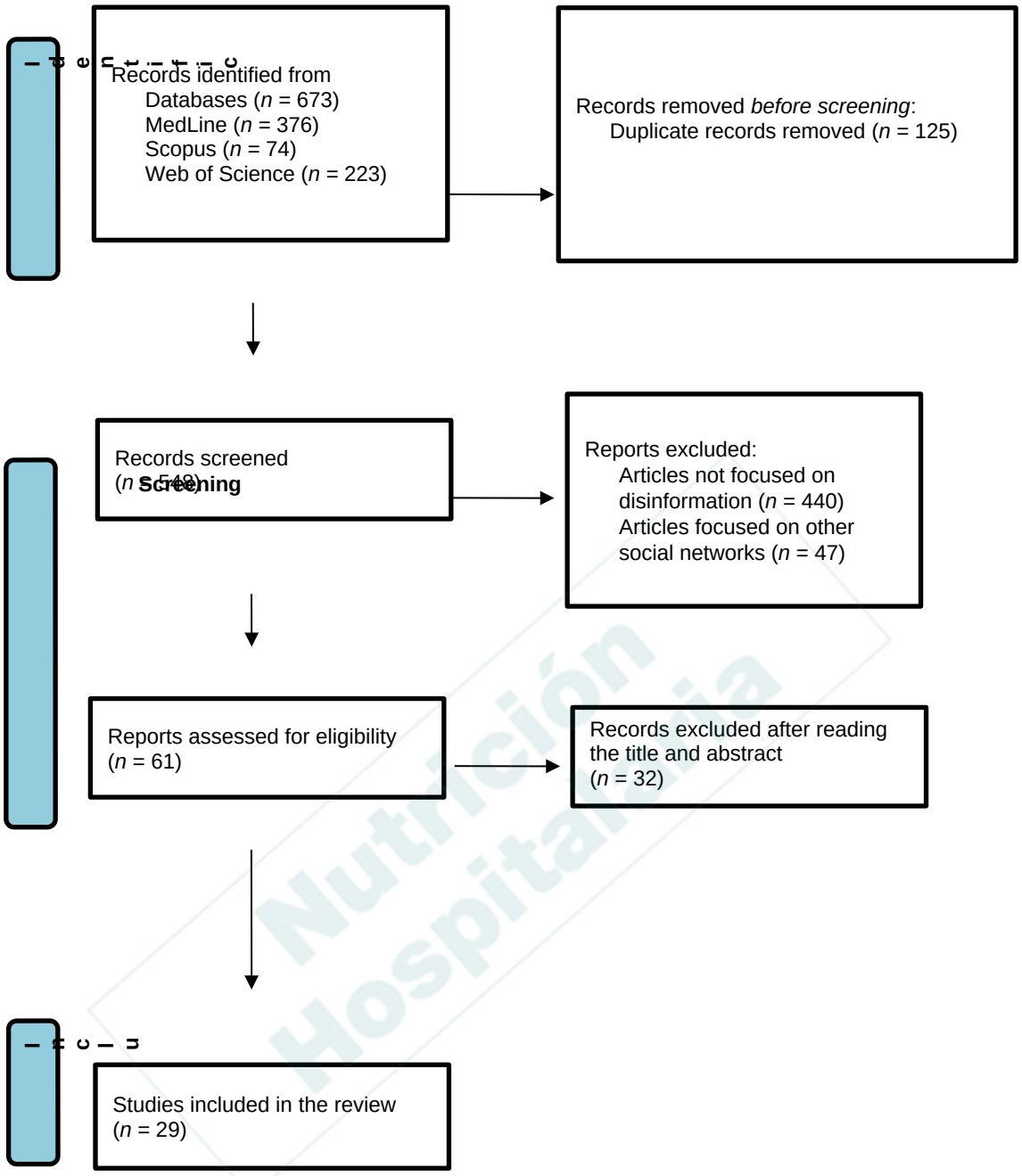

Figure 1. Flow chart of the article selection process. Adapted from the PRISMA guideline (19).

Table I. Inclusion and exclusion criteria

Criteria	**Language**	**Publishing media**	**Type of article**	**Subject of the article**	**Social network**	**Date of publication**
Inclusion	English	Peer-reviewed journal	Research articles, and reviews	Disinformation on nutrition	Twitter, X, TikTok, Instagram, YouTube, or Facebook	Between January 1, 2017, and June 30, 2024
Exclusion	Other languages	No peer-reviewed journal, books, others	Editorial letters, comments, pre-prints, abstracts, proceedings, book reviews	Disinformation on non-nutrition subjects, others (like eHealth literacy instrument, educational programs, etc.)	Others (like Weibo, Reddit, etc.)	Before January 1, 2017. After December 1, 2022

Table II. Miracle diet and misinformation on social networks

Author, year, reference	**Pathology/ Disease**	**Social media**	**Summary**
O'Connor et al. (2022) (31)	Acne	Tiktok, Facebook, Instagram, Twitter	This study aimed to assess the content of acne-related misinformation available online. Websites promoting misinformation were frequently affiliated with companies selling products that promised to cure acne, often in a remarkably short time
Niknam et al. (2021) (26)	COVID-19	Instagram	To characterize the representation of public health information related to COVID-19 on Instagram. Analysis of 1,612 posts from 92 accounts revealed 23 themes, including epidemiology and statistics, training and caring, general prevention guidelines, hygiene, healthy diet, and lifestyle. This content analysis provides new insights into public concerns during health crises

Inder et al. (2021) (41)	Gout	YouTube	The aim of this study was to assess the reliability and quality of YouTube videos pertaining to gout. This study demonstrated that many YouTube videos on gout provide useful information
Valente et al. (2022) (27)	Orthorexia	Instagram	This study delved into the relationship between orthorexia nervosa (ON) and Instagram. People who share ON-related content on Instagram were found to be primarily young women. Most of the other interviewees said that Instagram affected development to a certain extent. Content that was considered most harmful concerned diets, especially clean eating
Zemlyanskaya et al. (2022) (28)	Orthorexia	Instagram	This study explored the conversation around orthorexia nervosa (ON) on Instagram from a Russian-speaking perspective.

			Instagram appears to have a dual effect; it has the potential to both trigger the onset of ON and encourage recovery
Jenkins et al. (2020) (29)	Orthorexia	Instagram	This study aimed to explore young adults' perceptions of the authenticity and trustworthiness of Instagram posts by social media influencers (SMIs) and nutrition professionals (NPs). Findings indicated that a strong heroic message appeal significantly enhanced the perceived authenticity of NPs' posts, which in turn increased their trustworthiness. However, this effect was not observed for SMIs
Sina et al. (2022) (42)	NO	Instagram, Facebook	This systematic literature review aimed to explore the role of social media in children's and adolescents' diets and related behaviors, considering the underlying mechanisms. The review found that social media use was associated with skipping breakfast, increased consumption of unhealthy snacks and sugar-sweetened beverages, and lower intake of fruits and vegetables, regardless of age
Rodríguez-Martín &	NO	Twitter	Study aims to understand conceptualizations of carbohydrate consumption and dietary patterns related to

Castillo. (2017) (43)			carbo-phobia through Twitter activity. Four broad categories emerge that portray conceptualizations about carbohydrates: carbohydrates as a suspect or culprit for training plateau and weight problems, carbo-phobia as a lifestyle, carbo-phobia as a religion, and the love/hate relationship with carbohydrates
Giménez-Pérez et al. (2020) (44)	Diabetes	YouTube	This study evaluates the usefulness of YouTube videos as an educative tool for type 2 diabetes self-management. Of the 393 videos included, 42.2 percent ($n = 166$) classified as “alternative medicine.” 40.2 percent ($n = 158$) contained useful information. 25.7 percent ($n = 101$) videos contained misleading information
Schier et al., (2019) (45)	NO	YouTube	The objective of this qualitative netnography was to describe the food and nutrition messages shared among the transgender community using video blogs on YouTube. Six major themes were generated from the data analysis. These included the following: functions of diet and exercise; diet and exercise philosophies; “how to” vlogs;

			advice for success; using dietary supplements; and effects of hormone therapy
Saura et al. (2020) (30)	Orthorexia	Instagram	Using user-generated content (UGC) on Twitter, the present study identifies the main themes that revolve around the concept of healthy diet and determine user feelings about various foods. Our findings suggest that the collective UGC knowledge is lacking on such healthy foods as fish, poultry, dry beans, nuts, as well as yogurt and cheese
Kabata et al. (2022) (25)	NO	Instagram, Twitter	This study aimed to investigate whether Instagram® profiles can be reliable sources of information and knowledge about nutrition and dietetics. A total of 1189 posts were reviewed. The overall quality of the content regarding nutritional knowledge was extremely low (93.9 % of all posts)
Alnajrany et al. (2021) (46)	COVID-19	Twitter	The utilization rate of herbal and dietary supplements among the Saudi population is reported to be high. However, the utilization rate and types of herbal and dietary supplements during the COVID-19 pandemic are

			largely unknown. 64 % of the 1473 participants reported using herbal and/or dietary supplements for the purpose of boosting their immune system to prevent COVID-19 infection. In addition, 88.2 % of the respondents were misinformed about the manifestation of COVID-19 symptoms
Sidhu (2018) (47)	NO	Twitter, YouTube, Instagram	In the present study triangulation method of research is applied to evaluate the awareness and application of information related to diet for health, fitness and reduce body weight. This study reveals that usually people on social media blindly follow their 'friends' endangering health. The likes and comments not only substantiate the results but also create a pressure to 'do it' on others
Yousaf et al. (2020) (32)	ACNE	Youtube, Instagram	The purpose of the study sought to characterize the influence of social media use on acne treatment. Social media-influenced acne treatment advice is prevalent, especially among women, adolescents, and young adults. This treatment advice frequently does not align with AAD guidelines, with notably 40 % of respondents choosing dietary modification for acne management. These results suggest that dermatologists should inquire about social

			media acne treatment advice and directly address misinformation
Wagner et al. (2020) (48)	COVID-19	Instagram	"Immune boosting" is a trending topic during the COVID-19 pandemic. The concept of "immune boosting" is scientifically misleading and often used to market unproven products and therapies. This paper presents an analysis of popular immune-boosting posts from Instagram. Of the sampled posts, all promoted "immune boosting" as beneficial, nearly all involved commercial interests, and many used scientific and medical rhetoric in their messaging
Parbey et al. (2022) (49)	NO	YouTube, Facebook, WhatsApp	A rapid evidence review conducted during the development of Ghana's Food-Based Dietary Guidelines (FBDGs) revealed that children are highly exposed to targeted food advertisements employing strategies such as promotional characters, animations, billboards, front-of-store displays, product-branded books, and toys. The primary sources of health and nutrition information identified were television, radio, social media, health professionals, families, and friends

Fiuza, A & Rodgers, R. (2023) (50)	NO	TikTok	A study involving 421 U.S. women aged 18 to 21 examined the impact of brief diet and anti-diet TikTok videos on body image and mood. Findings indicated that anti-diet videos fostered a more compassionate and accepting self-view compared to diet and neutral videos. Conversely, exposure to diet culture content led to negative effects on mood and body image, aligning with prior research on the detrimental impacts of "thinspiration" and "fitspiration" content

Table III. Misinformation about nutrition on social networks

Title	Pathology/ Disease	Social media	Summary
Onder et al. (2022) (41)	Osteoporosis	YouTube	A study assessed the quality of 238 English-language YouTube videos on osteoporosis, finding that 86.1 % provided useful information, while 13.9 % were misleading. Quality evaluations revealed that 48 % were high quality, 34 % moderate, and 18 % low. Videos from universities and professional organizations scored highest in reliability and quality
The Mellouli et al. (2022) (33)	COVID-19	Twitter	The purpose of this study was to compare tweets on nutrition in times of COVID-19 published by 2 groups, namely, a preidentified group of dietitians and a group of general users. Differences in tweets between groups, notably ones related to content accuracy, themes, and engagement in the form of likes, shed light on potentially useful and

			relevant elements to include in timely social media interventions aiming at fighting the COVID-19-related infodemic or future infodemics
Pilgrim et al. (2019) (22)	No	YouTube	An exploratory study analyzed non-campaign health communication by influencers on social networks, focusing on content, techniques, and visible impact. Findings indicate that influencers build trust with followers through body-focused visuals and targeted communication, portraying diet and exercise as controllable factors for achieving body perfection. They often promote dietary supplements and branded sportswear as simplified means to enhance appearance, suggesting this leads to happiness
Pilar et al. (2021) (39)	Miscellaneous	YouTube	Researchers found that the use of social networking sites impacts adolescents' eating behavior. This study aims to identify the main topic associated with healthy food on the Instagram social network via hashtag and community analysis based on 2,045,653 messages created by 427,936 individual users. The results show that users most associate Healthy food with healthy lifestyle,

			fitness, weight loss and diet. In terms of food, these are foods that are Vegan, Homemade, Clean and Plant-based
Lambert et al. (2017) (34)	Renal Disease	YouTube	The present study describes the accuracy, quality, and health literacy demand of renal diet information for adults with kidney disease obtained from the Internet and YouTube. The most frequent renal diet topic found online was generic dietary information for people with chronic kidney disease. The proportion of renal diet information obtained from websites that was accurate was 73%. However, this information was mostly of poor quality with extensive shortcomings, difficult to action and written with a high health literacy demand
Pérez-Pérez et al. (2019) (38)	Irritable colon	Twitter	This study aimed to characterize the bowel disease (BD) community on Twitter, in particular how patients understand, discuss, feel, and react to the condition. This study evidence that Twitter is becoming an influential space for conversation about bowel conditions, namely, patient opinions about associated symptoms and

			treatments. So, further qualitative, and quantitative content analyses hold the potential to support decision making among health-related stakeholders, including the planning of awareness campaigns
Al Sharky. (2020) (36)	Celiac disease	Instagram, Twitter	The aim of this study was to investigate social media usage patterns among celiac patients and explore the potential factors that may influence the frequency of its usage. Celiac patients are highly involved in social media activities for purposes related to their disease. We encourage healthcare providers to be available online to provide trustable and high-quality educational materials
Jammadass et al. (2019) (35)	Kidney stone disease	Twitter, Youtube	We wanted to determine whether social media and search engines play a role in the management and/or prevention of Kidnsey Stone Disease (KSD). Social Media and search engines provide valuable information to patients with KSD. However, while the information provided regarding dietary aspects and fluid management was good, it was not comprehensive enough to include advice on other aspects of KSD prevention
Turnwald	No	Instagram	A study analyzing 3,065 social media posts from highly

et al. (2022) (23)			followed celebrities found that 87.3 % featured foods and 89.5 % featured beverages classified as less healthy, predominantly snacks, sweets, and alcoholic drinks. These items would not meet the UK's legal standards for youth advertising
Álvarez-Mon et al. (2022) (40)	No	Twitter	We investigated tweets posted between January 2009 and December 2019 by 25 major US media outlets about MedDiet and its components as well as the retweets and likes generated. The US media outlets analyzed showed reduced interest in MedDiet as a whole, while Twitter users showed greater interest in the overall dietary pattern than in its components
Verma, A.K et al. (2024) (37)	Celiac Disease	Facebook	This study investigates the authenticity of information about celiac disease on Facebook pages. A total of 155 celiac-related Facebook pages from Italy, the USA, and India were analyzed. It was found that 13% of these pages shared misleading information, including unverified alternative treatments. Patients are advised to verify information with healthcare professionals before relying

			on social media