

Received: 29/08/2023 --- Accepted: 26/09/2023 --- Published: 12/12/2023

GOVERNMENT HEALTH COMMUNICATION THROUGH INFOGRAPHICS: MESSAGES FROM THE MEXICAN GOVERNMENT ABOUT OBESITY, 2018-2023

COMUNICACIÓN GUBERNAMENTAL EN SALUD MEDIANTE INFOGRAFÍAS:
MENSAJES DEL GOBIERNO DE MÉXICO SOBRE OBESIDAD, 2018-2023

Paola Eunice Rivera-Salas: Benemérita Universidad Autónoma de Puebla. Mexico.
paola.rivera@correo.buap.mx

How to cite this article:

Rivera-Salas, Paola-Eunice. (2024). Government health communication through infographics: messages from the Mexican government about Obesity, 2018-2023 [Comunicación gubernamental en salud mediante infografías: mensajes del gobierno de México sobre Obesidad, 2018-2023]. *Revista de Comunicación de la SECCI*, 57, 1-21. <http://doi.org/10.15198/seeci.2024.57.e853>

ABSTRACT

Introduction: Government and health communication helps to inform citizens about public health problems, their care, and prevention, such as the case of obesity. Even more so in a country like Mexico, which has one of the highest rates of obesity world wide, both in adults and children. **Objective:** Characterize the Government Communication about health that has been carried out by the current federal administration (2018-2023) around obesity and jointly with some states of the Mexican Republic through the messages contained in infographics. **Methodology:** Quantitative, descriptive, transversal, non-experimental, and retrospective approach. Ninety infographics published in digital spaces by the public administration and their different instances were evaluated through content analysis using an observation guide. **Results:** The nature of the infographic messages was preventive (66%) and intended for general audiences (80%). A persuasive tone (75%) the goal is to persuade the recipient about the importance of healthy habits. In general, Government Communication is limited to supporting the substantive functions of the health system. **Discussion:** The content of messages aimed at Government Communication and the advantages and opportunities of infographics are discussed. **Conclusions:**

Infographics are a tool that allows the dissemination of information on obesity, contributing to the government's functions about health matters.

Keywords: government communication; health communication; infographics; public health; obesity.

RESUMEN

Introducción: La comunicación gubernamental y de salud ayuda a informar a la ciudadanía sobre los problemas de salud pública, su atención y prevención, como el caso de la obesidad. Más aún, en un país como México, que tiene una de las más altas tasas de obesidad a nivel mundial, tanto en adultos como en infantes. **Objetivo:** Caracterizar la Comunicación Gubernamental en salud que ha realizado la administración federal actual (2018-2023) en torno a la obesidad, y de manera conjunta con algunos estados de la República Mexicana, a través de los mensajes contenidos en infografías. **Metodología:** Enfoque cuantitativo, descriptivo, transversal, no experimental y retrospectivo. Se evaluaron 90 infografías publicadas en espacios digitales por la administración pública y sus distintas instancias, a través del análisis de contenido mediante una guía de observación. **Resultados:** El carácter de los mensajes del infográfico fue de tipo preventivo (66%) y destinada al público en general (80%). Se maneja un tono persuasivo (75%), con la finalidad de convencer al receptor sobre la importancia de tener hábitos saludables. En general, la Comunicación Gubernamental se ciñe a apoyar las funciones sustantivas del sistema de salud. **Discusión:** Se discute sobre el contenido de los mensajes orientados a la Comunicación Gubernamental, así como las ventajas y áreas de oportunidad de los infográficos. **Conclusiones:** Las infografías son una herramienta que permite la difusión de información en materia de obesidad, de forma sencilla, abonando a las funciones del gobierno en materia de salud.

Palabras clave: comunicación gubernamental; comunicación en salud; infografías; obesidad; salud pública.

Comunicação governamental sobre saúde através de infografias: mensagens governamentais do México sobre obesidade, 2018-2023

RESUMO

Introdução: A comunicação governamental e de saúde ajuda a informar os cidadãos sobre os problemas de saúde pública, os seus cuidados e a sua prevenção, como é o caso da obesidade. Ainda mais num país como o México, que tem uma das maiores taxas de obesidade do mundo, tanto em adultos como em crianças. **Objetivo:** Caracterizar a comunicação governamental sobre saúde levada a cabo pela atual administração federal (2018-2023) em relação à obesidade, e em conjunto com alguns estados da República Mexicana, através das mensagens contidas em infografias. **Metodologia:** Abordagem quantitativa, descritiva, transversal, não-experimental e retrospectiva. Foram avaliadas 90 infografias publicadas em espaços digitais pela administração pública e os seus diferentes organismos, através da análise de conteúdo, utilizando um guia de observação. **Resultados:** A natureza das mensagens das infografias foi preventiva (66%) e dirigida ao público em geral (80%). Foi utilizado

um tom persuasivo (75%), com o objetivo de convencer o recetor da importância de ter hábitos saudáveis. De um modo geral, a comunicação governamental é de apoio às funções substantivas do sistema de saúde. Discussão: Discute-se o conteúdo das mensagens destinadas à Comunicação Governamental, bem como as vantagens e áreas de oportunidade da infografia. Conclusões: Os infográficos são uma ferramenta que permite a disseminação de informação sobre a obesidade.

Palavras chave: comunicação governamental; comunicação sobre saúde; infografia; obesidade; saúde pública.

1. INTRODUCTION

Communicative processes and the advantages that have been identified between them have evolved over time. In recent years, national governments have started to be very careful about the type of messages they communicate to the citizenry, recognizing the benefits this brings to their image and reputation in the short term (Moreno-Manzo & Navarro-Chávez, 2020; Tamboleo-García, 2022), and that they have clear impact on future political processes. At the same time, it is documented that individuals who are well informed make better decisions (Muñoz-Céspedes et al., 2022; Villalta-Requenes & Cueva-Jiménez, 2022); not only in the realm of politics or finance but in other areas that are important to themselves, such as security and quality of life. In this context, Government Communication aims to disseminate relevant information to citizens, going beyond the political agenda (Gianfrini et al., 2018). As part of the State's obligations, it is essential to provide security to its inhabitants, which can be achieved through data that can inform them about critical topics like health (Rodríguez-Blanco, 2021).

Regarding the latter, obesity has gained significant relevance globally for several decades, being considered the new pandemic of this century (Córdova-Villalobos, 2016; Ceballos-Macías et al., 2018) and, of course, a public health problem. This non-infectious condition is defined as the accumulation of fat outside the normal levels for an individual; that is, having a body mass index above 30 (World Health Organization, 2023), which is higher than overweight. Although its growth has slowed in recent times, it is predicted that the number of people with obesity will increase by 18% by 2030; with women being the most affected by this condition (World Obesity Federation, 2022). In addition, its significance increased further when it was confirmed to be a contributing factor to contracting SARS-CoV-2, a virus that has had significant implications in daily life (Petrova et al., 2020; Rubio-Herrera & Bretón-Lesmes, 2021).

In some nations, this condition is more prevalent than in others. Mexico, for instance, ranks among the top countries with a significant proportion within its population affected by obesity, with a notable number of children experiencing childhood obesity from an early age (Shamah-Levy et al., 2018). Government numbers indicate that by the end of the 2030s, at least 4 out of 10 Mexicans will have obesity (Forbes Staff, 2018). Despite the implementation and increase of measures to control unhealthy foods in the Mexican market, such as the recent implementation of labeling on packaging and restrictions on the sale of ultra-processed foods and sugary drinks in school cafeterias (El poder del consumidor, 2019). However, the consumption of junk food and harmful products to health still persists in a significant portion of the

population, especially those belonging to lower socioeconomic levels (Trejo-Osti et al., 2021; Lobo-Fernández, 2022; Vanoye-Eligio et al., 2022).

Nonetheless, the growth of obesity rates can be halted by taking concrete actions, such as disseminating messages that encourage healthy consumption habits and physical activity. In this regard, Cruz-Licea and Morales-García (2019) suggest addressing the following points:

- Do not blame or hold individuals responsible for their body weight and health condition.
- It should be considered that an individual's biology is the result of the historical, political, economic, and cultural development of society.
- Avoid negative stereotypes of obesity that lead to social rejection, stigmatization, and discrimination towards people with obesity.
- Reaffirm that there is no ideal body and promote the acceptance of body diversity.
- Have a more positive approach, where messages strengthen self-esteem and body satisfaction.
- Inform about the health benefits of not having obesity.
- Inform about harmful weight control behaviors, such as dieting.
- Consider the understanding and opinion of textual messages and the perception of visual messages (healthy body) (p. 7).

There is a lot of information about obesity and weight loss available in cyberspace, including on social media. However, there is a need for a reputable and credible organization to provide guidance to the recipients (Dávila-Torres et al., 2015; García-Reyes & Salgado-Guadarrama, 2022). Mainly, it is necessary to inform the population about obesity and its impact to on their health in the short, medium, and long term. The Pan American Health Organization (2023) has promoted the Action Plan for the Prevention of Obesity in Childhood and Adolescence, focusing on primary disease care, promoting healthy eating and physical activity, especially in school settings, regulating the marketing and labeling of food in the market, as well as actions related to monitoring, research, and evaluation of policies and their implications.

In Mexico, the origins of health campaigns date back to the early 20th century. Initially, they were aimed at providing information about the ailments that emerged throughout its history, such as cholera or polio. Later, thanks to the influence of the Welfare State model, one of the most prevalent campaigns for several presidential terms has been the National Vaccination Week (Gómez-Dantés & Frenk, 2019), primarily targeting parents to take their children to vaccination centers.

Specifically, regarding nutrition, over the years, campaigns using beauty stereotypes have been observed in mass media to emphasize that obesity is very bad, to the extent of promoting the so-called "light culture" (Bazán & Miño, 2015). Other government

campaigns have focused on giving directives on how people should take care of themselves to avoid obesity. However, as mentioned by Salazar-Coronel et al. (2018), only 1 out of every 10 Mexicans are aware of these campaigns; of these, 31% understand the core messages regarding obesity and self-care, and this percentage is directly linked to the recipients' level of education.

On the other hand, recently, messages have focused on the topic of COVID-19 due to its impact. For months, the circulated information was primarily linked to risk factors and prevention of SARS-CoV-2. Although to a lesser extent, health campaigns have also been conducted focusing on chronic and non-infectious diseases to reduce the number of people suffering from these kinds of illnesses (Cabrera-Franco, 2021), considering the type of global emergency that was being experienced. It is important to note that the current government of Mexico, which started in 2018 and will end in December 2024, has utilized various resources to conduct government communication focused on health, from different instances and levels, as part of their direct communication efforts. Their communication strategy has primarily been through morning press conferences held by the president himself each morning.

Additionally, during this mentioned six-year term, as indicated by Esteinou (2019), indirect communication processes have been promoted through massive information technologies, resulting in a reduction in government advertising spending in traditional mass media. It is in these types of platforms that special emphasis has been placed on the dissemination of health-related content (Muñoz-del-Bosque, 2017).

Similarly, it is known that the Mexican state has various agencies, such as the Federal Consumer Protection Agency (Procuraduría Federal del Consumidor), which conducts studies on the quality of many foods and other domestically consumed products. Through one of its units called the General Coordination of Education and Dissemination, it provides recommendations on the quality of natural and processed foods, which are disseminated in the Consumer Magazine (Infodigna, 2023). This publication is available in both electronic and print versions and is also presented weekly in specially designed segments for national radio and television. Additionally, the government monitors health demographic statistics independently of those generated by the institutions that cater to patients. These instruments include the National Health and Aging Survey in Mexico (ENASEM) and the National Health and Nutrition Survey (ENSANUT) (National Institute of Statistics, Geography, and Informatics [INEGI], 2023). Thus, they have other types of open-access inputs that allow government entities to have sufficient data to articulate a campaign addressing public health needs.

Recently, the Mexican government has utilized infographics as one of its visual supports for information dissemination campaigns. The use of infographics for information dissemination has increased because this format rapidly conveys messages through images and text that are understandable to any audience (Muñoz-del-Bosque, 2017; Gallego-Ospina, 2020; Valdovinos-Rodríguez & Martínez-Moctezuma, 2022). The use of infographics is based on the recognition that they are very versatile mediums for effectively conveying messages (Albisu & Parodi, 2016; Granados-López, 2020).

Furthermore, infographics are highly consulted in collaborative spaces such as social media (Social Media, 2019; Hernández-Fernández & Morera-Vidal, 2022). In the case of campaigns related to obesity, a high level of infographic consultation has been observed on collaborative government platforms such as Twitter, Instagram, and Facebook. Among these platforms, Facebook is the most popular, with approximately 84 million users in Mexico, representing 63% of the total national population (Zendesk, 2023). This information is distributed with authorship from the Ministry of Health—both at the federal level and from the various states that constitute the federation. Additionally, the work of the National Institute of Public Health, the Mexican Institute of Social Security, the Institute of Security and Social Services for State Workers, among other health system agencies, is also evident (INEGI, 2006).

Despite this, infographics are frequently used to disseminate ideas, and not always the provided information validated (Costa-Sánchez & López-García, 2020; Damasceno-de-Souza et al., 2022). Many infographics often only mention the author— in this case, government agencies— and it is not a common practice to insert the sources of information that support the content of the communication piece. This can lead to speculation about the figures, recommendations, and assertions (Espino, 2020) presented within the infographic. Furthermore, infographics often lack accompanying links— that is, hyperlinks— that would allow the reader to delve deeper into the information being consulted. These points are crucial as they lend credibility to the visual support. Therefore, it is important to verify the inclusion of these elements.

Likewise, Mexico, like other governments, should take advantage of the present moment, as there is a general interest among the population regarding what their leaders— at different levels of government— say about their management. This extends to knowing the state's stance on health-related matters and how it will address such problems, all of which has become particularly relevant due to the ongoing pandemic (Ruiz-Santoyo et al., 2021). Moreover, this is considering public opinion on the current quality of healthcare services, taking into account factors such as corruption, distrust in public institutions (Ramírez-Alcántara & Torres-Sánchez, 2021), given the drug shortages and the dismantling of the healthcare system in Mexico.

In light of all the above, the following questions arise: How is Government Communication in health characterized through the messages contained in infographics regarding obesity during the 2018-2023 presidential term in Mexico? What are the elements that make up the structure of infographics on obesity? How are the contents regarding obesity from Health Communication presented in the infographics? How does Government Communication appear in the infographics addressing the issue of obesity?

2. OBJECTIVES

Considering the research questions posed, the general objective of this study was to characterize Government Communication in health carried out by the current federal administration (2018-2023) regarding obesity, in collaboration with some states of the Mexican Republic, through the messages contained in infographics.

Additionally, the following specific objectives were outlined:

- a. Describe how Government Communication is presented in infographics addressing the topic of obesity.
- b. Identify the elements that constitute the structure of infographics about obesity.
- c. Analyze the content from Health Communication within the infographics about obesity.

3. METHODOLOGY

To achieve the research objectives, a descriptive perceptual-level methodological design was employed, utilizing quantitative techniques. The study is cross-sectional, non-experimental, and retrospective. This means that only the observed characteristics of the study object are referred to, and there is no intervention in any of the events or variables of interest. Data retrieval was conducted in a single collection during the second quarter of 2023, reviewing publications from the beginning of the six-year term in 2018 until the end of the first quarter of 2023.

Regarding the population, all infographics published on the official virtual platforms of the Government of Mexico engaged in Government Communication related to health during the aforementioned period were included. In total, 90 infographics on the topic of obesity were analyzed, which were found distributed across the virtual platforms of the federal institutions mentioned in the first part of Table 1. It's important to note that in some cases, the Government of Mexico or its agencies are not the sole authors of the recovered communication pieces. It was identified that 63 of these pieces were presented by the federal administration in collaboration with 23 state agencies, as indicated in the second part of Table 1, including states like Puebla, Mexico City, State of Mexico, Chihuahua, Aguascalientes, among others.

Table 1. Summary of infographics categorized by authoring organization.

Authored solely by a federal government agency	
Name of the agency	Frequency
Secretaría de la Defensa Nacional (SDN)	1
Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (ISSSTE)	6
Instituto Mexicano del Seguro Social (IMSS)	5
Instituto Nacional de Salud Pública (INSP)	7
Desarrollo Integral para la Familia	2
Procuraduría Federal del Consumidor	1
Secretaría de Salud	6
In co-authorship with the Government of Mexico and at least one at the state level	
Name of the Agency	Frecuencia
Desarrollo Integral para la Familia	11
Secretaría de Salud	43
Gobierno del Estado	3
Servicios Estatales de Salud	6

Source: Author's own work.

The research technique employed was content analysis. To conduct this analysis, a review of research articles published from 2018 to 2022 was carried out, focusing on

keywords such as Communication and Health, Governmental Communication and Health, Infographics and Health, and Infographics and Governmental Communication. Based on this review, an instrument with 61 items was created to verify the presence of characteristics related to the variables of interest in this study, which are Governmental Communication, Health Communication, Representation of Obesity, and Elements of Infographic Structure. As part of the instrument validation, it was evaluated by 12 experts in the field, whose expertise included design, governmental communication, and health communication. Values were assigned in line with the Content Validity Index (CVI) to define the final items. Only items with a minimum content validity ratio of 0.59 were included, as recommended by Tristán-López (2008) as the minimum standard to maintain an item. With this initial instrument, a pilot test was conducted with two observers, reviewing three infographics that shared similar characteristics with those included in the sample. The criterion for finalizing the instrument was that the observation similarity between the observers should be at least 90% for the responses they selected. This ensured the functionality of the instrument, aligning with Holsti's reliability index, which suggests values close to 100%. The final digital instrument consisted of 51 items.

Figure 1 provides an example of the observed infographics, highlighting some of the elements that were of particular interest in this research. The information was retrieved in the second semester of 2023 and underwent descriptive statistical treatment using Excel software. This generated statistical graphs and tables summarizing the main results of the research.

Figure 1 Elements observed in the infographic.



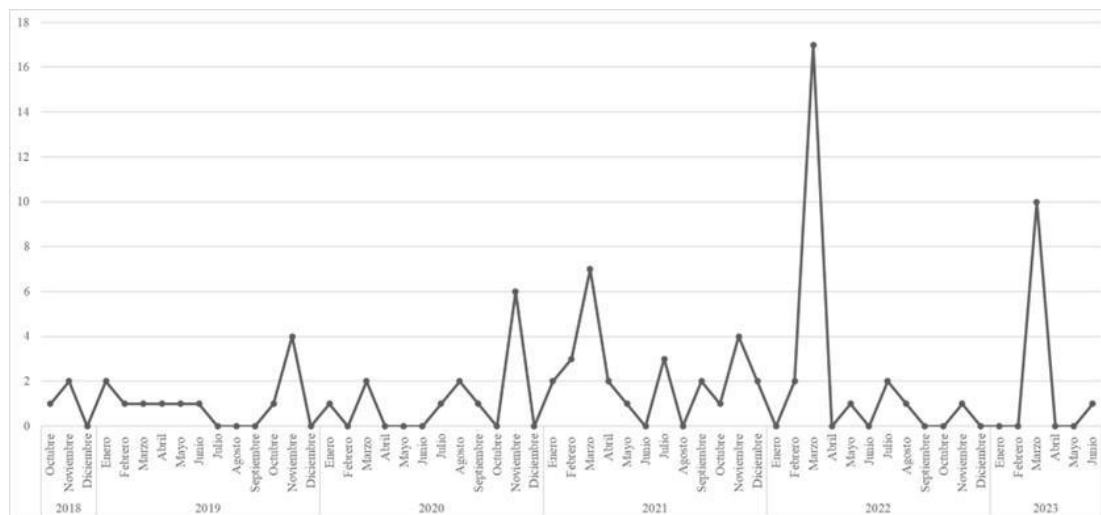
Source: Author's own work.

4. RESULTS

As part of the characterization addressed in this study, the trend in the publication of infographics on obesity was initially examined. The frequency of dissemination and its concentration per month in each observed year was delimited. In Figure 2, it is clearly evident that there is an increase in the publication of these infographics between 2020

and 2023. Likewise, there is a higher concentration of information dissemination regarding this disease during the months of March and November, primarily in 2022. However, there is no distinct pattern of infographic dissemination throughout the year; rather, it occurs in seasons. Similarly, there are periods where no infographics are published.

Figure 2. Trend in the publication of infographics on obesity by the federal administration.



Source: Author's own work.

Regarding the health theme of the infographic, 43% addressed topics related to the prevention of this disease, 41% provided general information about obesity, and the remainder focused on its control. With respect to the messages regarding obesity projected by the infographics, Table 2 contains records of the evaluated elements. It is noteworthy that the content primarily focuses on promoting changes in habits and risky behaviors associated with obesity, followed by the conditions that this condition can generate in the long term for individuals, and the importance of physical activity and maintaining a balanced diet for health. Some elements with lower presence in the observed pieces are the consumption of processed foods and their labeling, as well as the relationship between obesity and mental health.

Table 2. Assessment of messages related to Health Communication.

Items.	%
It discusses chronic diseases resulting from obesity.	34.44
Indicates the relationship it has with life expectancy.	17.78
Mentions the conditions it can generate in the long term.	38.89
Promotes the change of habits and risky behaviors.	63.33
Emphasizes the importance of physical activity and sports to reduce the condition.	38.89
Makes reference to mental health as part of obesity.	12.22
Clearly addresses the type of foods that are preferable to consume.	36.67
Proposes to better understand processed foods and their labeling.	8.89
Points out the validity of diets in weight control processes.	17.78
Explains the importance of Body Mass Index (BMI) and/or its relationship to obesity.	8.89
Suggests that the recipient undergo medical check-ups to prevent and control the disease.	15.56

Source: Author's own work.

Regarding the infographic as an information support, Table 3 shows the percentage concentration of elements observed as part of its content. It is noteworthy that the messages about obesity focus on highlighting the seriousness of this disease for public health. Likewise, concerning the use of images to represent obesity, it was identified that there are few or no representations of individuals shown as unintelligent, lacking motivation, or having almost perfect bodies, as elements to support the discourse on the importance of mitigating this disease. Furthermore, the structure of the phrases used has a more reflective tone, contrasting with the use of imperative expressions as a way to persuade the audiences.

Table 3. *Representation of obesity in the infographic through images and text.*

Items.	%
It proposes the recipient as primarily responsible for their obesity-related health condition (persecutory health).	22.22
The message encourages stigmatization and discrimination based on the condition of obesity.	11.11
It points out the diversity of body types.	1.11
The message emphasizes the severity of obesity.	73.33
The message focuses on promoting fear or aversion towards the disease.	63.33
The message focuses on promoting fear or aversion towards the disease.	10.00
The images used do not depict obesity in a crude or grotesque manner.	15.56
The images used portray athletic or very slim individuals as the healthiest.	8.89
Obesity is represented through individuals who appear lazy.	7.78
Images of individuals with a normal weight are used to depict healthiness.	0.00
Imperative phrases are used to encourage actions (move, take care, exercise, among others).	0.00

Source: Author's own work.

Also, characteristics were identified regarding Governmental Communication as a support for the infographic. A persuasive tone was identified in the majority of the observed infographics –7 out of 10– and the messages indicate the function performed by federal health agencies regarding obesity. Furthermore, in almost half of the infographics, the use of the image of the government of Mexico is observed as a point of orientation for the design of the infographics –refer to Table 4 for more information–. It should be noted that although the infographics were directed towards the general public, 7% of them were specifically aimed at children.

Table 4. *Government Communication reflected in the infographics.*

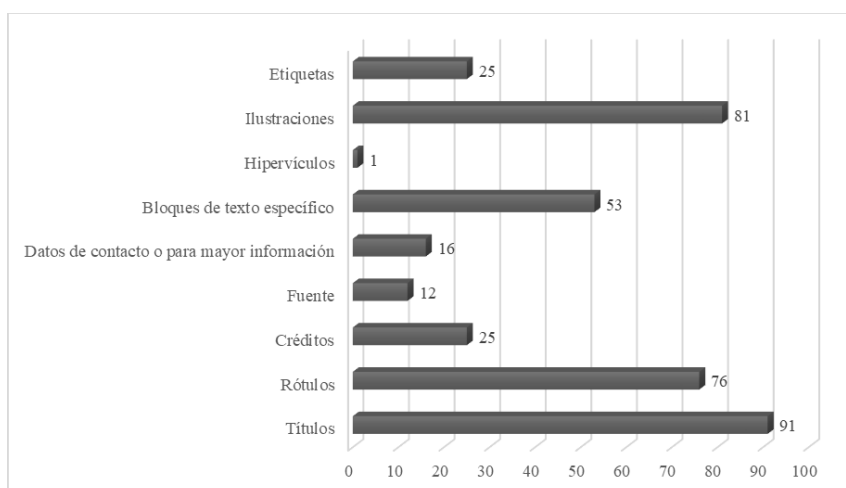
Items	%
It supports the construction of a political culture regarding health.	0.00
It is a tool to foster consensus.	7.78
It tries to convince the population that they are doing things better than what the opposition offers.	0.00
Motivates citizen participation and collective decisions.	6.67
Addresses the citizen's need for information about the actions of the Government of Mexico.	0.00
Is in line with the image of the Government of Mexico.	46.67
Presents persuasive messages.	75.56
Describes part of the public management being done by the health sector regarding obesity.	6.67

Supports the function of the health sector.	90.00
---	-------

Source: Author's own work.

Additionally, the presence of the basic elements of an infographic was identified. Figure 3 shows that the most recurrent resources observed in the infographics were titles, labels, and illustrations, with a lesser use of information presented in text blocks. Elements representing areas of opportunity to provide information more effectively and enhance content credibility include the limited use of sources and credits in the reviewed infographics. Furthermore, regardless of the sender, four central campaigns were perceived through the assigned labels to each infographic: 1) #Notepasesde..., 2) For the health of everyone, 3) In this cold season, and 4) Commemoration of the Day of. Additionally, other characteristics present in the total sample—meaning 100% of the analyzed infographics—were that they are seen as a synthesis of specific topic information, having a beginning, development, and conclusion, and are individual-type infographics, meaning they present only one topic, as the information is not distributed across multiple sections.

Figure 3. Percentage concentration of the presence of central elements in the observed infographics.



Source: Author's own work.

Finally, as a way to determine the theme of the infographic, all titles assigned to this visual organizer were recorded. The word "obesity" is used recurrently in the titles, as well as expressions like "health" and "nutrition." Thus, only 62% of the infographics had a different title. Another title that is observed less frequently but holds high significance is "childhood obesity." Some titles focus on related concepts such as "overweight" or "body mass index." Likewise, titles were used that linked obesity with other diseases or disorders, such as COVID-19 or "megarexia."

5. CONCLUSIONS AND DISCUSSION

In the dissemination of health topics, as in many areas of communication, for a message to be more successful, it is important for the sender to establish a publication frequency through which the information will be repeated and reinforced, allowing the receiver to grasp it. Thus, the end consumers who consult this data will be attentive to its publication. In the case of the infographics observed in this research, there

appears to be a lack of continuity over several months regarding the obesity theme. It seems that this topic only gains relevance at the beginning of the year to commemorate World Obesity Day. However, considering the seriousness of this public health issue, it would be important for government institutions working on this topic to provide information continuously throughout the year, to have a greater chance of reaching the various sectors of the population affected by this disease.

Regarding Health Communication, it is evident that the messages focus on promoting changes in habits and risky behaviors related to obesity. In contrast, there is little mention of high consumption of processed and labeled foods (Trejo-Osti et al., 2021; Lobo-Fernández, 2022; Vanoye-Eligio et al., 2022), which are currently regulated in Mexico. Efforts should be directed towards reducing the consumption of harmful foods to health, a topic that does not prevail as mentioned by the Pan American Health Organization (2023). Likewise, it is significant that the messages are less linked to weight control processes, as well as to the impact on mental health, which has been a major concern in recent years, as pointed out by Quintero et al. (2016).

Furthermore, there is a trend to raise awareness among citizens about diseases related to this issue. In this regard, although the messages are informative and sometimes have a persuasive tone, the individual is not solely blamed for their condition, which contrasts with the openness of the state regarding the advertising that is allowed in mass media, encouraging various behaviors that are detrimental to the recipient's health (Gómez et al., 2021), such as campaigns targeting children. Likewise, there is a discussion about the need to increase taxes on products that have a negative impact on the body, such as those high in salt or sugar. However, both of these measures have been restricted.

Another element that stands out in these analyzed infographics is the images used to address obesity. In these infographics, individuals with obesity are not portrayed in a grotesque manner or based on stereotypes related to obesity, as mentioned by Sánchez-Carracedo (2022), where they are perceived as lacking motivation, having little self-control, or being lazy, to name a few. Additionally, there is not an overuse of illustrations or photographs of extremely athletic or slender individuals as a socially acceptable stereotype and reference point for those consulting these resources. Overall, there is no tendency to stigmatize or discriminate against individuals with this condition. However, there is still no emphasis on body diversity, which is an important aspect that various institutions have stressed should be socialized to help individuals understand that their personal characteristics vary in each case, and therefore, so does their body shape. Hence, this is considered an area of opportunity, in line with what Cruz-Licea and Morales-García (2019) pointed it out. Therefore, campaigns should articulate more towards body satisfaction, boosting self-esteem, and ensuring how these messages are perceived by the recipient.

Regarding the text itself, the structure of the messages did not involve the use of imperative verbs. Instead, sentences were identified written in an informative tone, more oriented towards providing the consumer with more information about the condition in question. Health promotion should be an invitation rather than an order to the recipient. In this vein, understanding the campaign is essential, not just knowing

it, as emphasized by Salazar-Coronel et al. (2018), regardless of the sociodemographic characteristics of the infographic's recipients.

In terms of the Governmental Communication evident in the infographics, it primarily focuses on supporting the function of the country's healthcare sector. Thus, within the infographic, logos are displayed, and colors used align with the current administration's institutional image. The remaining space is utilized to convey content and messages about health. Therefore, at least in the observed content of the infographic, the intended message is clear, emphasizing health and obesity as the central objective of constructing these communication pieces. It is worth noting that, even though the use of visual supports for health communication is not directly leveraged for political promotion, indirectly, this benefits the positive image of the current public administration, as highlighted by Moreno-Manzo and Navarro-Chávez (2020) and Tamboleo-García (2022) in their respective texts.

Another positive aspect to highlight is the implementation of infographics as a resource for indirect communication that the current Mexican state has been developing. As mentioned by Esteinou (2019), by employing such supports, there is a greater possibility of influencing the various audiences that the government of Mexico addresses. At the same time, the dissemination of the infographic can be quite high, considering it can be consumed by anyone with electronic devices such as smartphones at hand, linked to social networks, or using instant messaging services (Zendesk, 2023).

In addition to the above, it is relevant for the Mexican state to focus its efforts on disseminating messages regarding obesity. In terms of public health issues, it is crucial for institutions, including the government itself, to allocate resources to counteract such problems. Moreover, when this entity has various channels and firsthand information (Dávila-Torres et al., 2015; García-Reyes and Salgado-Guadarrama, 2022) to combat the misinformation prevalent in society about a condition like obesity.

Regarding the content of the infographic, several recurrent elements typical of this visual support are observed. The principle of striking a proper balance between text units—such as titles, labels, tags, text blocks—and visual units—like illustrations, vector drawings, or graphs—is adhered to, as indicated by Muñoz-del-Bosque (2017), Gallego-Ospina (2020), and Valdovinos-Rodríguez and Martínez-Moctezuma (2022). Nevertheless, some elements, such as credits and sources that support the information, are not commonly used in these communication pieces. This is a significant gap for potential recipients, as even though the sender has credibility and a good reputation, the disseminated messages should have a foundation that enables the recipient to evaluate and delve into the information, as noted by Espino (2020).

Additionally, it is necessary to work on the originality of the titles assigned to infographics, as many of them are labeled as World Obesity Day or World Anti-Obesity Day—repeated up to 15 times. It is important to be more creative when presenting information to have a greater impact upon publication. Alternatively, relevant aspects related to the theme, such as emotions, patient care, and the assessment of commercial-type information, among others, should be revisited.

In this research, one of the current health problems considered by many as a pandemic has been addressed: obesity. One of the contrasting measures implemented in the last five years has been presented, which is the dissemination of awareness messages through infographics linked to health campaigns carried out by the federal administration. The reference points in this analysis were Government Communication and Health Communication. While this is an advancement in the analysis of this type of visual resource, it would be necessary to compare it with similar communication pieces published by other administrations to have a broader view of their impact as a communication resource.

Thus, in this document, it can be observed how infographics have been primarily used to inform about the characteristics of the disease —obesity— and its relationship with other conditions, supporting the dissemination of health sector information in a simple manner on this topic. This covers specific objectives a/.

On the other hand, the content of the messages in the observed infographics was described, specifically regarding Health Communication, focusing on infographics about obesity, primarily emphasizing that to mitigate obesity, it is essential to adopt good eating habits and include physical activity in the consumer's daily routine. At this point, it is suggested to diversify the messages to the audience, so that even more factors related to this condition are shared. This would make it evident for citizens to recognize the multifactorial nature of obesity. Through this measurement, specific objective c/ was fulfilled.

Additionally, the presence of elements considered key for the integration of infographics was quantified. The content trend reported by these communication pieces was depicted in a graph, highlighting areas for improvement, such as the lack of visible substantiation in the body of the infographic. The most recurrent tags and titles of the communication pieces were also identified. This covered the scope of specific objective b/.

Regarding the limitations of the research, this work, from the communication process perspective, focused on describing the infographics issued by the senders, in this case, various instances of the Mexican government. Data on the messages and communication supports were collected. However, this exercise does not address the role of the recipient, the feedback they provide, and the context in which this dissemination occurs. Therefore, as part of future lines of research, these essential components of communication will be addressed.

On the other hand, regarding Government Communication and Health Communication, the study was limited to addressing infographics on a specific theme like obesity. Thus, the evaluation of health campaigns represents only a portion of this study, as other types of communication pieces were not covered. Additionally, it would be relevant to examine the treatment given to other public health issues and the communication supports used to gain a better understanding of how Government Communication is implemented in health.

As a result of the experience gained in this research, several key points are suggested for the relevant use of infographics as part of Government Communication in health,

namely:

1. Establish a frequency for addressing the topic, not merely presenting it casually. This will reinforce the intended message and increase the likelihood of success.
2. Explore diverse ways to present the topic. Infographics offer the flexibility to use formats such as comics, biographies, or content exposition. These formats can be employed to present the topic in alternative and engaging ways to capture the audience's attention.
3. Carefully select the images and text to be included, as they are essential for conveying the information. Design and piloting should involve not only the editor but also a group of recipients to gauge their potential reactions to the infographic. This is especially crucial for sensitive issues like obesity.
4. While infographic design is important, so is clearly defining the dissemination strategy. Consider whether it will be shared in analog form through printing and distribution in public spaces or digitally through collaborative platforms. Tailor the communication to the audiences frequenting these chosen spaces, aiming to create pieces that align with each virtual platform's user base.
5. The suggested essential elements for an infographic include a title, images appropriate for the intended audience and message, clear and straightforward text blocks, and adherence to the issuing entity's institutional image. Additionally, hashtags can be included to make it easier to find and categorize resources related to a specific topic.
6. It's crucial to integrate sources and hyperlinks for further targeted consultation. These sources could include other government institutions or reputable organizations associated with the topic. The issuer should not assume that being the source automatically confers credibility.
7. Remember that an infographic should be largely self-contained, with content that is clear and self-explanatory. Avoid overly general presentations of topics, especially in critical areas like health, as this does not contribute to the enrichment of the community seeking information.
8. Specifically concerning the communication of health-related topics, it's imperative to provide information that aids in disease prevention or offers specific disease-related details. Care should be taken when addressing forms of treatment, as many members of the audience may avoid consulting a healthcare professional, believing that these resources provide sufficient information to address their health issues. Therefore, it's pertinent to encourage readers to consult a specialist.
9. In the context of Government Communication in health, it's advisable for various government bodies to allow the dissemination of factual health information instead of utilizing these spaces to publicize the government's actions in addressing public health issues. Other communication channels and pieces should be used to showcase the government's efforts. This approach

undoubtedly contributes to building a positive image of the government.

As a closing remark, through this study, the relevance of communicating with the public about public health issues has been highlighted. Providing the population with better information for the decision-making is essential. Regardless of the communication medium—be it video clips, podcasts, infographics, 360-degree videos, among others—the message's construction should aim to provide essential information so that individuals consulting them are increasingly empowered in health matters. In this regard, the role of the communicators is pivotal in the communication process, ensuring that it truly becomes horizontal and multidirectional.

6. REFERENCES

- Albisu, L. y Parodi, P. (2016). La infografía. Un recurso en los proyectos de estudio del Primer Nivel. *Que hacer educativo*, XXVI(136), 19-24. https://www.dgeip.edu.uy/documentos/2022/privada/PE2022_La_infografia.pdf
- Bazán, C. I. y Miño, R. (2015). La imagen corporal en los medios de comunicación masiva. *Psicodebate*, 15(1), 23-42. <https://doi.org/10.18682/pd.v15i1.482>
- Cabrera-Franco, T. (2021). Políticas de comunicación para la promoción de la salud: el ejemplo del combate al sobrepeso y obesidad en México. *Revista Latinoamericana de Ciencias de la Comunicación*, 19(35), 124-135. <http://revista.pubalaic.org/index.php/alaic/article/view/664>
- Castiel, L. D. y Álvarez-Dardet Díaz, C. A. (2011). *La salud persecutoria: los límites de la responsabilidad*. Lugar Editorial.
- Ceballos-Macías, J. J., Pérez Negrón-Juárez, R., Flores-Real, J. A., Vargas-Sánchez, J., Ortega-Gutiérrez, G., Madriz-Prado, R. y Hernández-Moreno, A. (2018). Obesidad. Pandemia del siglo XXI. *Revista de sanidad militar*, 72(5-6), 332-338. <https://tinyurl.com/4s6hp52c>
- Córdova-Villalobos, J. A. (2016). La obesidad: la verdadera pandemia del siglo XXI. *Cirugía y cirujanos*, 84(5), 351-355. <http://dx.doi.org/10.1016/j.circir.2016.08.001>
- Costa-Sánchez, C. y López-García, X. (2020). Comunicación y crisis del coronavirus en España. Primeras lecciones. *Profesional de la Información*, 29(3). <https://doi.org/10.3145/epi.2020.may.04>
- Cruz-Licea, V. y Morales-García, M. L. (2019). El contenido en los mensajes de prevención de la obesidad que no previene la salud. *Acta Universitaria*, 29, e1805. Epub 1805, 1-9. <https://doi.org/10.15174/au.2019.1805>
- Damasceno-de-Souza, A., Baños-Moreno, M. J., Fernandes DaSilva, E. B. y Ribeiro Felipe, E. (2022). Fuentes de información sobre COVID-19 y la lucha contra las fake news. *Revista EDICIC*, 2(3), 1-11. <http://ojs.edicic.org/index.php/revistaedicic/article/view/102>

- Dávila-Torres, J., González-Izquierdo, J. J. y Barrera-Cruz, A. (2015). Panorama de la obesidad en México. *Revista Médica del Instituto Mexicano del Seguro Social*, 53(2), 240-249. <https://tinyurl.com/23aa3shz>
- El Poder del Consumidor. (2019). Ante la falta del cumplimiento de la regulación que prohíbe la venta de comida chatarra en escuelas, lanzamos la campaña: Escuelas 100% libres de comida chatarra. *El poder del consumidor*. <https://tinyurl.com/4rtwp6vz>
- Espino, L. A. (2020). 6 recomendaciones para mejorar la comunicación del gobierno de México ante el COVID-19. *Letras Libres*. <https://tinyurl.com/muv4ysjv>
- Esteinou, J. (2019). El nuevo gobierno de izquierda y el cambio del modelo de comunicación en México. *Revista Internacional de Comunicación y Desarrollo*, 3(10), 122-132. <http://dx.doi.org/10.15304/ricd.3.10.6172>
- Forbes Staff. (mayo 22, 2018). Para 2030, el 40% de los adultos en México sufrirán de obesidad. *Forbes*. <https://tinyurl.com/27nnhfdt>
- Gallego-Ospina, J. P. (2020). *Entre imágenes y textos: Secuencia didáctica de enfoque comunicativo para el fortalecimiento de la comprensión lectora de texto expositivo discontinuo tipo infografía de estudiantes de grado noveno* [Tesis de Maestría, Universidad Tecnológica de Pereira, Repositorio Institucional UTP]. <https://hdl.handle.net/11059/12218>
- García-Reyes, A. L. y Salgado-Guadarrama, J. D. (2022). Valoración de enfermería en el autocuidado y estilo de vida del paciente con enfermedad crónica asociada a la obesidad. *Revista Dilemas Contemporáneos: Educación, Política y Valores*, 9(2), 1-15. <https://doi.org/10.46377/dilemas.v9i2.3154>
- Gianfrini, M. F., Guerrini, L. y Iotti, A. L. (2018). Planificar la comunicación gubernamental: enfoques y prácticas que guían la tarea de los/as comunicadores/as sociales en la gestión de políticas públicas entre 2011 y 2018. *Actas de Periodismo y Comunicación*, 4(2), 1-25. <http://perio.unlp.edu.ar/ojs/index.php/actas>
- Gómez, L. F., Mora-Plazas, M., Parra, M. F., Smith Taillie, L. y Popkin, B. (2021). *Contraargumentos a los sectores que se oponen a acciones políticas efectivas para promocionar una alimentación saludable y prevenir la obesidad*. <https://tinyurl.com/5cuuuu74>
- Gómez-Dantés, O. y Frenk, J. (2019). Crónica de un siglo de salud pública en México: de la salubridad pública a la protección social en salud. *Salud Pública de México*, 61(2), 202-211. <https://doi.org/10.21149/10122>
- Granados-López, S. (2020). Influencia de ISOTYPE en la infografía contemporánea. Una reflexión sobre fondo y forma. Encrucijadas. *Revista Crítica de Ciencias Sociales*, 20, 1-12. <https://recyt.fecyt.es/index.php/encrucijadas/article/view/87195>
- Hernández-Fernández, A. y Morera-Vidal, F. (2022). Infographics, a better medium than plain text for increasing knowledge. *Gráfica: Journal of Graphic Design*, 10(18), 23-40. <https://doi.org/10.5565/rev/grafica.204>

- Infodigna. (2023). *¿Qué es la Procuraduría Federal del Consumidor?* <https://www.infodigna.org/es/articles/1500012975942>
- Instituto Nacional de Estadística, Geografía e Informática [INEGI]. (2023). *Programas de Información*. <https://www.inegi.org.mx/programas/>
- Instituto Nacional de Estadística, Geografía e Informática [INEGI]. (2006). *Clasificación de Instituciones de Salud - Histórica*. <https://tinyurl.com/5yy975hw>
- Lobo-Fernández, G. L. (2022). Obesidad y diabetes: enfermedades causadas por el ambiente. *Revista Neuronum. Edición especial Escritura Académica*, 8(4), 89-91. <http://eduneuro.com/revista/index.php/revistaneuronum/article/view/470/531>
- Moreno-Manzo, J. M. y Navarro-Chávez, J. C. L. (2020). Factores determinantes de la reputación gubernamental: una ponderación a través del algoritmo de Saaty. *Ciencia Ergo-sum*, 27(1), e71, 1-14. <https://doi.org/10.30878/ces.v27n1a3>
- Muñoz-Céspedes, E., Ibar-Alonso, R. y Cuerdo-Mir, M. (2022). Metodologías para la medición de las competencias financieras un análisis de cuestionarios. *Recta: Revista Electrónica de Comunicaciones y Trabajos de ASEPUMA*, 23(2), 119-136. <https://doi.org/10.24309/recta.2022.23.2.03>
- Muñoz-del-Bosque, J. E. (2017). Infografías y comunicación para la salud: El uso de gráficos como material comunicativo. *Revista Mexicana de Comunicación*, 1(140), 1-3. <https://tinyurl.com/j427xta6>
- Organización Mundial de la Salud [OMS]. (2023). *Obesidad*. <https://tinyurl.com/yicyftav7>
- Organización Panamericana de la Salud. (2023). *Prevención de la obesidad*. <https://www.paho.org/es/temas/prevencion-obesidad>
- Petrova, D., Salamanca-Fernández, E., Rodríguez Barranco, M., Navarro Pérez, P., Jiménez Moleón, J. J. y Sánchez, M. J. (2020). La obesidad como factor de riesgo en personas con COVID-19: posibles mecanismos e implicaciones. *Atención primaria*, 52(7), 496-500. <https://doi.org/10.1016/j.aprim.2020.05.003>
- Quintero, J., Félix Alcántara, M. P., Banzo-Arguis, C., Martínez de Velasco Soriano, R., Barbudo, Eduardo, S. B. y Pérez-Templado Ladrón de Guevara, J. (2016). Psicopatología en el paciente con obesidad. *Salud mental*, 39(3), 123-130. <https://doi.org/10.17711/SM.0185-3325.2016.010>
- Ramírez-Alcántara, H. T. y Torres-Sánchez, A. T. (2021). La corrupción en el sector salud de México ante la pandemia: perspectiva de la confianza. *Revista Gestión y Estrategia*, 60, 9-25. <https://doi.org/10.24275/uam/azc/dcsh/gye/2021n60/Ramirez>
- Rodríguez-Blanco, V. (2021). ¿Se vulneró el Derecho a recibir información durante el primer estado de alarma en la crisis del COVID-19? *Revista Española de la Transparencia*, 12, 227-246. <https://doi.org/10.51915/ret.136>

- Rubio-Herrera, M. A. y Bretón-Lesmes, I. (2021). Obesidad en tiempos de COVID-19. Un desafío de salud global. *Endocrinología, Diabetes y Nutrición*, 68(2), 123-129. <https://doi.org/10.1016/j.endinu.2020.10.001>
- Ruiz-Santoyo, G. A., Juárez-López, B. y Aguilera-Fernández, A. (2021). Mercadotecnia social en la salud en tiempos de COVID-19. *Face, Revista de la Facultad de Ciencias Económicas y Empresariales*, 21(2), 22-33. <https://doi.org/10.24054/01204211.v2.n2.2021.4652>
- Salazar-Coronel, A. A., Martínez-Tapia, B., Mundo-Rosas, V., Méndez Gómez-Humarán, I. y Uribe-Carvajal, R. (2018). Conocimiento y nivel de comprensión de la campaña Chécate, Mídete, Muévete en adultos mexicanos. *Salud Pública de México*, 60(3), 356-364. <https://doi.org/10.21149/8826>
- Sánchez-Carracedo, D. (2021). El estigma de la obesidad y su impacto en la salud: una revisión narrativa. *Endocrinología, Diabetes y Nutrición*, 69, 868-877. <https://doi.org/10.1016/j.endinu.2021.12.002>
- Shamah-Levy, T., Cuevas-Nasu, L., Gaona-Pineda, E. B., Gómez-Acosta, L. M., Morales-Ruán, M. C., Hernández-Ávila, M., y Rivera-Dommarco, J. Á. (2018). Sobrepeso y obesidad en niños y adolescentes en México, actualización de la Encuesta Nacional de Salud y Nutrición de Medio Camino 2016. *Salud Pública de México*, 60(3), 244-253. <https://doi.org/10.21149/8815>
- Social Media. (2019). *Infografías para redes sociales: ¿cómo deben ser en cada una de ellas?* <https://coobis.com/es/cooblog/infografias-para-redes-sociales/>
- Tamboleo-García, R. (2022). La construcción de la reputación institucional y el compromiso ciudadano con liderazgo transversal. *Religación: Revista de Ciencias Sociales y Humanidades*, 7(32), e210907, 1-14. <http://doi.org/10.46652/rgn.v7i32.907>
- Trejo-Osti, L.E., Ramírez-Moreno, E. y Ruvalcaba-Ledezma, J. C. (2021). Efecto del etiquetado frontal de advertencia de alimentos y bebidas. La experiencia de otros países de América Latina. *JONNR, Journal of Negative or No Positive Results*, 6(7), 977-90. <https://doi.org/10.19230/jonnpr.4176>
- Tristán-López, A. (2008). Modificación al modelo de Lawshe para el dictamen cuantitativo de la validez de contenido de un instrumento objetivo. *Avances en Medición*, 6, 37-48. <https://tinyurl.com/422tatyu>
- Valdovinos-Rodríguez, S. E. y Martínez-Moctezuma, A. (2022). Infografía y sus tres capas, una aproximación pedagógica para diseño gráfico. UCES.DG. *Enseñanza y Aprendizaje del Diseño*, 9(17), 54-69. <https://tinyurl.com/mwc6h6y7>
- Vanoye-Eligio, M., Martín-Canché, B. R., Torres-Sauri, K. A. y García-Vela, J. A. (2022). Conocimiento del Etiquetado Nutricional y Contenido de Azúcares Añadidos en Alimentos Procesados en Campeche, México. *Conciencia Tecnológica*, 63, 1-12. <https://www.redalyc.org/articulo.oa?id=94472192007>

Rivera-Salas, Paola Eunice.

Government health communication through infographics: messages from the Government of Mexico about Obesity, 2018-2023

Villalta-Requenes, A. L. y Cueva-Jiménez, N. C. (2022). La educación financiera y su incidencia en los comerciantes del cantón Zapotillo. *Ciencia Latina Revista Científica Multidisciplinar*, 6(2), 4102-4123. https://doi.org/10.37811/cl_rcm.v6i2.2152

World Obesity Federation. (2022). *World Obesity Atlas 2022*. <https://tinyurl.com/bdewx756>

Zendesk. (2023, 1 de mayo). +20 estadísticas de redes sociales y ventas para inspirarte. *Blog de Zendesk*. <https://tinyurl.com/5bajrhar>

AUTHORS' CONTRIBUTIONS, FUNDING, AND ACKNOWLEDGMENTS

Funding: This research received no external funding.

Conflict of Interest: There is no conflict of interest.

AUTHOR:

Paola Eunice Rivera Salas

Bachelor's degree in Economics and Master's degree in Higher Education from the Benemérita Universidad Autónoma de Puebla, Mexico; Master's degree in Communication and Specialist in Journalism and Information Sciences from the Universidad Europea del Atlántico, Spain; Doctorate in Education from the Universidad Virtual Hispánica de México. Recognized as a Level I Researcher for the period 2022-2024 by the National System of Researchers (SNI-CONACYT). Full-time Professor-Researcher at the Benemérita Universidad Autónoma de Puebla, Mexico. Member of the Coordinating Committee 2022-2024 of the Network of Media Observatories, ROM-CONEICC. Research interests in Communication, Education, ICT, and Responsible Communication in Organizations, Professions, and Media. Honorable mention in the 1st Educational Innovation Award in 2017 by the Repensar Seminars at the Instituto Politécnico Nacional, Mexico.

Orcid ID: <https://orcid.org/0000-0002-8050-3585>

Google Scholar: <https://scholar.google.com/citations?user=se71DCQAAAAJ&hl=es>

ResearchGate: <https://www.researchgate.net/profile/Paola-Rivera-Salas>

Academia.edu: <https://buap.academia.edu/PaolaRivera>

RELATED ARTICLES

Rivera Salas, P. E. (2020). Infografías sobre calidad de vida difundidas por el gobierno de México en el sitio "Todo sobre el COVID-19". *Revista de Comunicación y Salud*, 10(2), 81–108. [https://doi.org/10.35669/rcys.2020.10\(2\).81-108](https://doi.org/10.35669/rcys.2020.10(2).81-108)

Camacho Markina, I., Goikoetxea Bilbao, U., & Marauri Castillo, I. (2023). Estigmatización social en el tratamiento informativo de la obesidad en la prensa española durante la pandemia. *Revista Latina De Comunicación Social*, (81), 250–274. <https://doi.org/10.4185/RLCS-2023-1895>

Castro Mazo, D. "La comunicación en la prevención y promoción de la salud en situaciones de sobrepeso y obesidad : avances y desafíos". Repositorio Institucional - Pontificia Universidad Javeriana. Pontificia Universidad Javeriana. 2019. <http://hdl.handle.net/10554/51345>