#Obesity: Analysis of Publications Related to Obesity on Instagram

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Abstract

Obesity is considered an epidemic by the World Health Organization and has increased considerably among the young population. As sedentary lifestyle and deregulated eating are factors that contribute to obesity, the dissemination of information that stimulates the development of healthier behaviors can help control obesity. Recent studies have shown that social media present themselves as potential aids tools for stimulating a healthy lifestyle. Among young people, Instagram stands out in terms of popularity and its influence on life habits has already been pointed out by scientific literature. Given the fact that Instagram presents itself as a highly influential social media' platform, we aimed to analyze the posts related to obesity. This is a descriptive study conducted in October 2020, from the analysis of the 100 most relevant posts, according to Instagram plugin, indexed by the hashtag obesity. It was found that among the posts analyzed, 68% contained photographic component and 32% illustrative component. As for the content posted, most were about encouragement (26%), followed by health promotion (24%), personal experience (18%), surgical results (13%), diet (13%), exercise (3%) and memes (3%). Regarding the objects depicted in the posts, 42% were people, 25% texts/illustrations, 24% selfies, 8% food and 1% nature. Most of the posts were made by health professionals (72%) and the rest by non-professionals (28%). It is observed that most posts have as content the prevention of obesity and change in the course of the disease, either through encouragement, personal experience, health promotion and diet, suggesting that Instagram can be an useful tool to disseminate content about obesity and encourage preventive behaviors.

Keywords: Health Promotion; Social Media; Health Education

Abbreviations

WHO: World Health Organization

Introduction

Obesity has shown an upward growth curve worldwide [1]. This global epidemic has a great impact on public health because it is directly related to the higher risk of numerous comorbidities [2]. This problem affects about 30% of the world's population and in recent years its prevalence has doubled in more than 70 countries [3]. This scenario has negative economic outcomes in the long term, due especially to the expenses with the treatment of comorbidities associated with obesity, bringing serious budgetary consequences for the government in the world [4].

Among the various causative factors of obesity, such as genetic and epigenetic mechanisms [5], there seems to be a prominent relationship on sedentary lifestyle and unhealthy eating [6]. The behavioral role of the individual is of paramount importance in the obesity process, since overweight is caused by a metabolic imbalance, disregarding primary pathologies, due to increased caloric intake not accompanied by increased energy expenditure [7]. The environmental factor also interferes with the behavior of the individual, which can motivate excessive food intake and reduce motivation to practice physical activity [8].

It is important to establish that among the risk factors, voluntary behavioral actions are often modifiable factors for the course of the disease, and that the choice of healthier life habits is a decisive attribute for the development or not of obesity [9]. The promotion of these habits becomes even more important in the young population, where the highest prevalence rates of overweight and obesity have been frequently recorded, increase the chances that in the future, these young people may become adults who will develop many of the comorbidities associated with obesity [10].

Especially for young people, who are in the transition from overweight to obesity, strategies for reversing obesity based on changing behaviors have been increasingly recommended [11]. Among the many strategies used to control obesity with a focus on changing behaviors, the use of social media stands out [12]. In this context, social media seem to be a tool capable of influencing behaviors, constituting a useful means of social support for weight control [13,14]. Social media has the power to influence its users by establishing common interests, creating a bond and relationship between content producers and their consumers [15].

Social support for the practice of healthy living in this resource is based on the growing search of people for information technology content in the health area, provided by professionals or non-professionals, in order to obtain formal help relationships [16]. This influence can have a beneficial effect on the eating behavior of the individual [17], triggering positive changes in the diet through health promotion, especially in adolescents, who engage more in this content in an online way to traditional methods [18]. In addition to assisting in the process of changing behaviors of eating habits, social media has also been used in interventions aimed at motivating physical activity [19,20]. Together, this evidence points to the importance of social media in obesity control strategies with a focus on behavioral changes.

On the other hand, one cannot ignore the negative role of social media in inducing inappropriate behavior with the improvement of quality of life. As an example, we can mention the influence of social media on eating disorders [21,22]. Many of these negative effects are due to the low quality of the information available on these social networks, as already pointed out in some studies [23-25]. Thus, it is necessary to constantly analyze the information content used in social media, because depending on the quality of the information and the qualification of those who posted it, the effectiveness of using social media in controlling obesity can be impaired. Among the social media most used by young people to debate issues related to lifestyle, Instagram stands out. The potential of digital influencers in people's life habits is not new, on Instagram for example, there is a lot of evidence related to issues of food [26-29], body image [30-37], and physical activity [38-40].

However, studies that directly analyze the use of Instagram on the topic of obesity have not yet been carried out. As in Brazil, Instagram is one of the most popular social media, with about 928.5 million users, with Brazil having the third largest number of Instagramers, behind only the United States and India [41], for this reason the present study focused on publications in the Portuguese language.

Objective of the Study

The objective of the present study was to analyze how instagramers have addressed the obesity theme, paying special attention to issues related to both the prevention and treatment of obesity. We believe that the data presented here can be used in future discussions about the use of Instagram as a supporting tool in public health strategies involved in combating obesity.

Materials and Methods
Experimental design

This is a descriptive study with a mixed approach (quanti/qualitative) that analyzed the content of posts (posts) retrieved by hashtags (#) on Instagram (www.instagram.com; Facebook, Menlo Park, CA). This study complied with Instagram's terms and

conditions of use and privacy policy. The research protocol was exempt from ethical review, since all data were publicly available, and the researchers did not interact with users. All data collected did not contain identifying information to guarantee the anonymity of the participants and to prevent the misuse of the information. The study followed methodological procedures similar to that described in previous study with minor modifications [42].

Data collection

The data was collected manually from screen shots directly from Instagram (website version) by a researcher through an anonymous account. The data was collected manually from screen shots directly from Instagram (website version) by a researcher through an anonymous account. The 100 most relevant posts (according to Instagram) were screened in the search area using the hashtag "#obesidade". This hashtag was selected because it more broadly represents the topic of obesity in the Portuguese language of Brazil. Data were collected between October 1st and 30th, 2020. Each post was coded and stored in folders for further analysis.

Data analysis

The analysis of the posts was performed manually using inductive and deductive classification methods. The posts were characterized according to 1) media resources (photographs or illustrations); 2) type of content (encouragement to change habits, related to health promotion issues, personal experience, results of surgeries, diet, physical exercise, memes); 3) appearance of the post (people, texts with illustrations, selfies, food, nature); and 4) self-declared description of the identity of the account that published the post (health professionals or not). A descriptive analysis of the results was carried out to obtain frequency tables, in order to perform a quantitative characterization of the data. Thus, the results are presented as absolute and relative frequency for categorical variables.

The media resources of the posts were defined whether it was illustrative or photographic. If it was a realistic photo, it was classified as photographic composition. If it contains any type of computerized assistance, such as illustrations, infographics, informative texts, memes, the media resources were classified as illustrative composition.

The type of content was defined as the focus and content of the post as a whole. A post can address multiple topics, but the central focus was used to classify them into subgroups and categories. The encouragement category covered any post by any author that encouraged a lifestyle change in any nature. Personal experience shows an account of who has changed their habits. The category surgical results aimed at people who experienced bariatric surgery. The diet showed healthy eating tips. In the health promotion subgroup showed information about health as a whole focusing on a healthy life, as well as exercises that showed tips and ideas for physical activities. And finally, the memes that had a universal approach to the previous categories.

The appearance of the post was basically created to identify what was visually portrayed in the post, subdivided into selfies, people, nature, food and texts and/or illustrations.

Results

The table 1 shows the data related to the characterization of posts on obesity published on Instagram. It was found that among the posts analyzed, 68% contained photographic component and 32% illustrative component. As for the type of content, most were about encouragement (26%), followed by health promotion (24%), personal experience (18%), surgical results (13%), diets (13%), exercise (3%) and memes (3%). In relation to what was portrayed in the posts (appearance), 42% were people, 25% texts and/or illustrations, 24% selfies, 8% food and 1% nature. The posts were made mostly by health professionals, represented by 72% and the rest by non-professionals with 28%.

Discussion

In view of the many evidence about the importance of social media in encouraging behavioral changes in the health area, it was analyzed in the present study how Instagram has given rise to the debate on the topic of obesity. The data presented here were obtained from accounts of Brazilian instagramers, as these are the ones that have accessed this social media the most. In general, our data demonstrate that, at least in Brazil, the topic of obesity on Instagram has been mostly moved by instagramers who declare them-

Variable	Absolute frequency	Relative frequency
Media resources		
Photograph	68	68%
Illustration	32	32%
Type of content		
Encouragement	26	26%
Health promotion	24	24%
Personal experience	18	18%
Results of surgeries	13	13%
Diet	13	13%
Physical exercise	03	03%
Memes	03	03%
Appearance of the post		
People	42	42%
Text with illustration	25	25%
Selfies	24	24%
Food	08	08%
Nature	02	01%
Account identity		
Health professional	72	72%
Non health professional	28	28%

Table 1: Characterization of obesity posts on Instagram.

selves as health professionals. These instagramers published posts on obesity focusing on several aspects of the theme, especially on issues related to lifestyle.

We demonstrate that most of the posts were made in photo format. This shows a tendency to use Instagram as an image sharing platform that meets the primary functionality of the network. On the other hand, it also shows that the topic of obesity has been debated on Instagram using people's images, or instagramers, suggesting the maintenance of identity in publications and that they can therefore favor popularity, as already pointed out in other studies [43,44].

It was also demonstrated in the present study that the publications on Instagram about obesity were conducted with the aim of discussing issues related to changing lifestyles. As has been seen, half of the publications were intended to encourage people to healthier lifestyles or to discuss health promotion issues. Anyway, within the theory and practice of health promotion, it is not enough to just tell people what the most correct thing is to do in terms of health care, but to guarantee conditions so that the desire for change can be built [45,46]. Thus, the posts of encouraging the improvement of health care habits, especially focused on health promotion strategies, were very present and therefore may suggest that Instagram can be an important tool to be included in the prevention of obesity.

As for the appearance of the posts, most of them refer to a situation where the center of attention was who actually made the post. As in the case most of the identity of the Instagram accounts that carried out the postings were from health professionals, it can therefore be inferred that the scenario built on Instagram to debate the topic of obesity was part of the daily lives of these people. Perhaps for this reason, the topics covered mostly affected healthier lifestyles. This is a positive point, as it makes the content posted much easier and perhaps that is why it explains the good popularity. Although it was not the objective of the present study to evaluate the quality of the content posted, as a large part of this content was posted by health professionals, it is expected to be of good quality. Anyway, the data show that health professionals are adhering to social media to disseminate health content and that in the present case, relevant issues have been debated regarding the relationship between lifestyle and obesity.

To date, many of the studies that have evaluated Instagram posts on some aspects of obesity have focused on issues of body image, food injustice and physical activity [47-49]. Although everyone at some point touched on the topic of obesity, our study was the first to address this analysis clearly. As demonstrated for other health topics, Instagram can be useful in stimulating behavioral changes in people and therefore can be applied in education-based health promotion strategies [50].

Conclusion

The data presented here allow us to conclude that Instagram has provided a space for debate on issues relevant to obesity. Incentive content the practice of healthier living habits was frequent-

ly published by health professionals and for this reason favored the centrality of discussions on important issues for the prevention of obesity. Thus, it is suggested that Instagram has the potential to be better articulated in government obesity control strategies.

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