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Hypertension: An Instagram analysis

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ABSTRACT

Background**:** Hypertension (HTN) or high blood pressure exerts a significant public health burden on cardiovascular health status and healthcare systems in India. With the internet now being used to search for information about medical conditions and treatment, the aim of the study was to review the posts and videos related to hypertension on Instagram and to check their authenticity.
Materials and Methods: The cross-sectional observational study was conducted over a period of one month in August 2022, in which posts under different hashtags related to hypertension were analyzed. Information related to the type of post, number of likes and comments, the type of information provided, and information about the uploaders were collected. The information provided in the posts was cross-checked according to WHO guidelines for hypertension.
Results: Out of 600 posts only 404 posts (67.3%) were related to hypertension. Our study revealed that 311 posts (76.98%) regarding Hypertension on Instagram are true and 242 posts (59.9%) were posted by the healthcare and welfare Industry. Majority of the posts are related to prevention of hypertension.
Conclusions: According to our research, 30% of Instagram posts are unrelated to the category they are under. People will become aware that not everything they see on Instagram is true or pertinent to the issue by recognizing such posts and statistics regarding the misinformation that is present there.

1. Introduction

Instagram has become a popular platform for sharing information in the form of pictures, movies, songs, and text postings with thousands of daily views during the COVID-19 pandemic.[1] An increasing number of people use social networks such as Instagram as one of their primary sources of information and a medium to express their opinions.[1]

Hypertension (HTN) or high blood pressure exerts a significant public health burden on cardiovascular health status and healthcare systems in India.[2] In India, the overall prevalence of hypertension was 30.7% and directly responsible for 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths.[2,3] Treatment of hypertension includes nonpharmacologic therapy (also called lifestyle modification) alone or in combination with antihypertensive medication therapy. Lifestyle changes, such as dietary alterations and increased physical activity, are seen to be important steps in the prevention and

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treatment of hypertension.[4] Since appropriate controlling of hypertension lowers the risk of adverse health events, support activities through social networking sites could be effective in managing hypertension.[5]

Instagram has emerged as the fastest-growing social media platform and offers a multifaceted approach to education and communication through its integration of visuals and interactive features.[6] This accessibility has particularly benefited the medical community, by providing tools for behavioral support, participation encouragement, and information dissemination.[7] Literature is limited on how Instagram posts foster awareness regarding hypertension among Internet users of India, the present study attempted to explore and analyze the contents of these posts, and determine whether posts are related to hypertension.

2. Aims and Objectives

The aim of the study is to review the posts and videos related to hypertension on Instagram and to check its authenticity with regard to WHO data.

3. Methodology

It is a cross-sectional type of observational study conducted over a period of one month in August 2022. A questionnaire with predetermined questions related to the post and the content was prepared and made accessible to the authors online. The authors analyzed 100 top performing posts under various hashtags (#hypertension, #hypertensionawareness, #highbloodpressurediet, #highbp, #hypertensionsupport, #highbloodpressuretreatment).

The authors collected information related to the type of information being shared, the type of uploaders (Doctors/Hospitals/News Agencies/Others), number of likes, number of comments, and cross-checked the data provided in the posts with the World Health Organization (WHO) guidelines.

As the present study does not involve human participant data, and all data was collected from publicly accessible accounts, the study was deemed exempt from ethical approval.

4. Results

Out of 600 posts analysed in total, only 404 posts (67.3%) were related to Hypertension.

Table 1 shows the hashtags used to educate regarding Hypertension. #hypertension support had the most number of relevant posts (n=94 out of 100), while #hypertension had the least number of relevant posts (n=41 out of 100).

Table 2 depicts a breakdown of the characteristics of the posts examined. Posts constitute the majority of the content analyzed, accounting for 79.70%, while videos make up a smaller portion, representing 29.30% of the content.

Table 1: Number of posts (relevant posts) analyzed under each hashtag

Hashtag	***n* (%)**
#hypertension	41 (10.15%)
#highbptreatment	65 (16.09%)
#highbp	47 (11.63%)
#hypertensionawareness	88 (21.78%)
#hypertensionsupport	94 (23.27%)
#highbloodpressurediet	69 (17.08%)

Table 2:

Characteristics of Post	***n* (%)**
Type of content	
Post	322 (79.70%)
Video	82 (29.30%)
Duration since posted	
1 month (1st July onwards)	93 (23.02%)
1-6 months (1st Jan to 30th June)	235 (58.17%)
> 6months (before 1st Jan)	76 (18.81%)
No. of likes in each post	
<50	246 (60.89%)
50-100	39 (9.65%)
100-500	34 (8.42%)
>500	85 (21.04%)
No. of comments in each post	
<50	377 (93.32%)
50-100	16 (3.96%)
100-500	5 (1.24%)
>500	6 (1.49%)
Post uploaded by	
Doctor	84 (20.79%)
Health and welfare industry/website	242 (59.90%)
News agency	73 (18.07%)
Dietician	5 (1.24%)
Meme/cartoon/funny information	
Yes	24 (5.94%)
No	380 (94.06%)

Regarding duration, posts within the last month (from 1st July onwards) comprise 23.02% of the analyzed content, while content posted between 1st January and 30th June accounts for the largest proportion, totaling 58.17%. The least amount of posts were older than six months (before 1st January) (18.8%).

The majority of posts (60.89%) received less than 50 likes, while posts receiving over 500 likes make up 21.04%. Most posts (93.32%) also received fewer than 50 comments, with only a small fraction of posts (1.24%) receiving over 500 comments.

Content uploaded by the health and welfare industry/websites is the most prevalent, comprising 59.90%. Posts from news agencies represent 18.07% of the analyzed content. Doctors' posts constitute a smaller proportion, accounting for 20.79% and Dietitians contributed the least, with only 1.24% of the posts.

A minority of posts (5.94%) contain meme, cartoon, or funny information, while the majority (94.06%) do not include such content.

Table 3 presents the distribution of posts across different categories related to Hypertension. Prevention-related posts are the most prevalent, constituting 55.2% (*n*=223), followed by description (37.1%) and treatment (35.4%).

Table 3:

Category of Post	***n* (%)**
Description of hypertension	150 (37.1%)
Prevalence	56 (13.8%)
Etiology	89 (22%)
Prevention	223 (55.2%)
Treatment	143 (35.4%)
Mortality	43 (10.6%)

Figure 1 depicts the authenticity of information, with 76.98% of the posts containing true information. Information in 19.8% of the posts could not be determined.

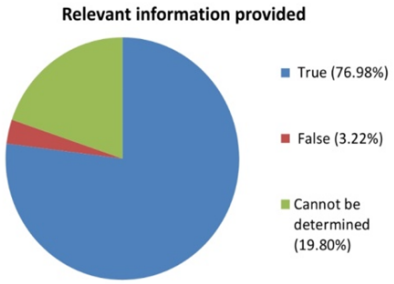

Figure 1: Authenticity information posted on Instagram

5. Discussion

High blood pressure, also known as hypertension, has a serious negative impact on cardiovascular health and healthcare systems.[8] Reviewing Instagram posts and videos about hypertension and determining their veracity in light of WHO statistics were the goals of this study. This observational study was cross-sectional in nature and was carried out in August 2022. The top 100 posts under the six different hashtags for hypertension—"#hypertension," "#hypertensionawareness," "#highbloodpressure," "#highbp," "#highbloodpressurediet," and "#hypertensionsupport"—were analyzed from 600 Instagram posts. The health and welfare sector accounted for the majority of the posts created. The bulk was published between 1st January and 30th June 2022. Majority of the information was not a meme, cartoon, or hilarious fact. Based on the most recent WHO information and standards addressing hypertension, 76.98% of the 404 posts that were analyzed were accurate.[9]

Hypertension is increasingly recognized as a significant global public health concern, especially In India, where approximately 33% of urban residents and 25% of rural dwellers affected by the condition, among whom, only 25% of rural Indians and 38% of urban individuals receive treatment for hypertension, while control of blood pressure remains inadequate, with only 10% of hypertensive rural and 5% of urban populations achieving optimal blood pressure levels.[2,3]

According to a study conducted in India, adults also have low awareness, treatment, and control of hypertension, with only 28% of those in the study having high blood pressure were aware of it, and of those who were, 52% were receiving treatment. Most of the individuals being treated for hypertension had good adherence and their blood pressure was under control.[10]

The major objective was to determine whether information about hypertension was relevant on Instagram, which has a stronger influence on the general population in the modern world. Due to the significant impact, it is also crucial to fact-check these posts and stop the spread of rumors and misleading information. In a similar study that assessed hypertension-awarenss in Facebook, the study classified groups according to their goals, topics, member counts, geographic restrictions, levels of engagement, and user-generated content. They took information from the categories "hypertension," "increased blood pressure," and "blood pressure" separately. They discovered that raising awareness was the primary goal of these groups, with 11.2% primarily created to help patients, 21.3% focusing on service promotion, and one-fifth of the posts related to hypertension awareness.[5]

In addition to posing serious problems for healthcare systems around the world, the coronavirus disease 2019 (COVID-19) pandemic has fueled a wave of rumors, hoaxes, and false information about COVID-19 causes, symptoms, prevention, and treatment. Such erroneous practices are being promoted, and unhealthy behaviors are being concealed, which aids in the spread of the virus and eventually harms people's physical and mental health.[11] In the case of hypertension, based on our observation, most of the information was found to be true (76.98%) based on WHO guidelines, and there weren't many hoaxes and rumors. This difference could be attributed to hypertension being a chronic condition with proper guidelines laid and various treatment options available; on the other hand, COVID-19 was a pandemic without any known treatment

guidelines.[12]

The most recent study findings and correct information should be available on social media. For the purpose of conveying genuine public health messages, the media, healthcare organizations, community-based organizations, and other crucial players should establish strategic alliances and launch shared platforms.[13] Additionally, it is important to use cutting-edge technology like natural language processing and data mining techniques to find and delete online content that lacks a solid scientific foundation from all social media platforms; for example, any discussion on hypertension on any social media platform should lead to a genuine pop-up link should be provided, similar to what we see with COVID-19.[14] Furthermore, it is important to ensure that telemedicine-based services are giving correct information about hypertension while also regulating and enforcing these practices.[15]

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7. Conflict of Interest

None.

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