From Ridicule to Resistance: Online Public Discourses Surrounding Ivermectin on a Selected British Broadcasting Corporation News Video on Youtube

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DOI: https://doi.org/10.51244/IJRSI.2025.1215000145P

Received: 07 September 2025; Accepted: 12 September 2025; Published: 10 October 2025

ABSTRACT

The dissemination of health information through mainstream media plays a critical role in shaping public perception, particularly during global health crises. This study examined audience responses to the BBC YouTube video titled *"The false science around Ivermectin – BBC News"*, which debunked Ivermectin as an alternative COVID-19 treatment. Using qualitative textual analysis, 500 most recent out of 1,093 viewer comments posted three years ago were thematically analyzed to explore patterns of public attitudes, stigmatization, and backlash. Findings reveal highly polarized responses. Stigmatization emerged through ridicule, questioning of scientific credibility, moral judgment, and distrust of Ivermectin users, while public backlash manifested via promotion of counter-narratives, accusations of media bias, and active debate. Linguistic and rhetorical strategies—including humor, sarcasm, conspiratorial framing, anecdotal evidence, moral reasoning, and hyperbole—shaped how stigma was reinforced or contested. The findings underscore the interplay of media framing, public risk perception, and online discourse, illustrating how social, cognitive, and moral dimensions contribute to polarized health debates. This study contributes to understanding how mainstream media messages interact with audience beliefs to influence both the stigmatization of health interventions and the expression of public resistance in digital spaces.

Keywords: Ivermectin, stigmatization, public backlash, YouTube comments, health communication, media framing, risk perception

INTRODUCTION

During the early stages of the COVID-19 pandemic, Ivermectin—a broad-spectrum antiparasitic agent with decades of established safety in humans—emerged as a candidate for repurposing due to its promising **in vitro** antiviral activity against SARS-CoV-2 and preliminary findings from animal and modeling studies (Kalfas et al., 2020). Enthusiasm soared initially due to early, non-peer-reviewed clinical results and laboratory findings suggesting potential benefits (Deng et al., 2022).

However, as rigorous data accumulated, the evidence for Ivermectin's potency in treating or preventing COVID-19 became markedly inconclusive. The **Cochrane systematic review** concluded that there was *no evidence* supporting its use for COVID-19 outside of well-conducted randomized trials, citing limitations in study quality and design (Popp & Weibel, 2021). Providing further clarity, a high-quality **randomized controlled trial published in JAMA** found that even with a higher dose (600 µg/kg daily for six days), Ivermectin failed to significantly improve time to recovery or reduce hospitalizations compared to placebo in patients with mild to moderate COVID-19 (Reis et al., 2022).

Similarly, a **systematic review and meta-analysis of peer-reviewed randomized controlled trials** found that Ivermectin did not significantly reduce mortality, hospital stay duration, mechanical ventilation rate, or result in faster viral clearance, reinforcing its lack of efficacy despite a tolerable safety profile (Deng et al., 2022). These findings are echoed in other large meta-analyses and trials published in reputable journals including the *New England Journal of Medicine* and *QJM*, which similarly reported an absence of clinical benefit when only rigorous, well-designed studies are considered ((Reis, G. et al., 2022; QJM Review, 2021).

Public health organizations such as the **World Health Organization (WHO)** have also advised against the use of Ivermectin for COVID-19 treatment except within clinical trial settings, citing uncertainty and low-certainty evidence (Reis, G. et al., 2022).

Narratives formed around Ivermectin during the pandemic

During the COVID-19 pandemic, Ivermectin emerged as one of the most polarizing and contested drugs. While initially promoted as a potential therapeutic option, it quickly became the subject of scientific scrutiny, political endorsements, and widespread public debate. Social media analysis revealed a divided landscape: a cross-sectional study of over 5,000 tweets in January 2022 found that 53.4% expressed positive views about Ivermectin as a COVID-19 treatment, 35.6% were neutral, and only 11% were negative (Kautsar et al., 2025). Media coverage amplified this divide by strongly influencing public interest; in fact, a study showed that a single standard deviation increase in Ivermectin news coverage corresponded to a 164% surge in Google search queries—far greater than that for Remdesivir or Hydroxychloroquine (Medders & van der Schans, 2025).

The narratives surrounding Ivermectin were shaped not only by clinical claims but also by political, cultural, and social dynamics. In the Philippines, Ivermectin became a case of "pharmaceutical messianism," where surging public interest coincided with COVID-19 waves and endorsements by politicians and alternative health figures. Despite weak scientific evidence, it was framed as a familiar and accessible panacea, especially in contexts of limited vaccine access (Alibudbud, 2022). Similar trends appeared globally, where misinformation spread across language communities. For example, English-language Ivermectin misinformation circulated widely among Japanese users, often before gaining traction in Western contexts, suggesting deliberate, politically driven amplification (Shimizu et al., 2023).

At the same time, ridicule played a role in narrative formation. Media outlets and popular culture repeatedly referred to Ivermectin as "horse dewormer," with late-night comedy and online memes mocking its use. This framing deepened tribal divisions, where skepticism toward the drug was aligned with institutional trust, and support for it became tied to anti-establishment or "medical freedom" rhetoric (M/C Journal, 2022). In the United States, this symbolism translated into policy when some states facilitated over-the-counter access to Ivermectin, reinforcing its role as an ideological marker rather than a scientifically validated treatment (Washington Post, 2025).

Together, these dynamics show how Ivermectin's story during the pandemic went beyond questions of clinical efficacy. Its trajectory demonstrates how media, politics, and cultural identity struggles can elevate a drug into a symbol of hope, distrust, and resistance, ultimately shaping public discourse in ways that far outpace scientific evidence.

Rising confidence in Ivermectin despite the medical establishment debunking it

The rising public confidence in Ivermectin during the COVID-19 pandemic, despite repeated debunking by the medical establishment, reflects the convergence of political rhetoric, media amplification, and social identity dynamics. While leading health authorities, including the World Health Organization (WHO) and U.S. Food and Drug Administration (FDA), concluded that available clinical evidence did not support Ivermectin as an effective treatment for COVID-19 (World Health Organization, 2021; U.S. Food and Drug Administration, 2021), large segments of the public continued to embrace it. This persistence can be attributed to several interrelated factors.

First, **media and political endorsements** played a powerful role. Research has shown that media coverage directly influenced search behavior and public interest; one study found that every surge in media attention produced a significant increase in Google searches for Ivermectin, far outpacing interest in other repurposed drugs like Hydroxychloroquine or Remdesivir (Medders & van der Schans, 2025). In the Philippines, Ivermectin gained traction as a form of "pharmaceutical messianism," where politicians, public figures, and alternative health advocates promoted it as an accessible and affordable cure amidst vaccine shortages (Alibudbud, 2022). These endorsements tapped into widespread fears and frustrations, allowing Ivermectin to be framed as a people's remedy against elite-controlled science.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

Second, **social media dynamics** amplified confidence in Ivermectin through selective sharing, echo chambers, and viral misinformation. A Twitter content analysis of over 5,000 posts showed that more than half expressed positive sentiment toward Ivermectin, with only a small minority rejecting its use (Kautsar et al., 2025). In some cases, misinformation spread across linguistic and cultural boundaries, with Japanese users circulating Ivermectin narratives derived from English-language sources even before they gained widespread traction in the West (Shimizu et al., 2023). This cross-cultural flow illustrates how Ivermectin's reputation was not confined to one region but embedded in a broader global discourse of skepticism toward mainstream medicine.

Third, **cultural and ideological factors** sustained public confidence in the drug. Popular culture often ridiculed Ivermectin as "horse paste," a label that reinforced divisions between pro- and anti-establishment groups. Instead of discouraging use, such ridicule entrenched beliefs among supporters, who framed their use of Ivermectin as a defense of "medical freedom" and resistance to institutional overreach (M/C Journal, 2022). In the United States, this symbolic role was formalized in state-level policies expanding access to Ivermectin, reflecting its transformation from a pharmaceutical question into a political and cultural statement (The Washington Post, 2025).

Taken together, these factors explain why confidence in Ivermectin persisted. The drug became more than a medical issue; it evolved into a symbol of distrust in institutions, a tool of political populism, and a marker of cultural identity. These dynamics allowed it to maintain credibility among segments of the public long after the medical establishment had dismissed it.

The medical establishment's aggressive efforts to counter belief in Ivermectin

The medical establishment's response to Ivermectin during the COVID-19 pandemic was unusually aggressive, marked by strong public advisories, retractions of early favorable studies, and campaigns to label it as misinformation. Authorities such as the World Health Organization (WHO) and the U.S. Food and Drug Administration (FDA) consistently warned that Ivermectin lacked sufficient clinical evidence and should not be used outside controlled trials (World Health Organization, 2021; U.S. Food and Drug Administration, 2021). Major journals also retracted early studies that had suggested potential benefits, citing methodological flaws or data irregularities (Popp et al., 2021). These actions were justified as safeguards against premature adoption of unproven therapies, but they were often perceived by the public as disproportionately forceful compared to the treatment of other experimental drugs. This perception, combined with distrust in official narratives, fueled suspicions that vested interests were shaping medical guidance.

Conspiracy theories about Ivermectin often revolved around **Big Pharma influence** and **government suppression of low-cost alternatives**. While some of these narratives were exaggerated, they drew strength from real-world political and economic dynamics. For example, critics pointed to the fact that expensive treatments like Remdesivir were granted emergency use authorization despite limited clinical evidence, while Ivermectin was strongly opposed (Cheema et al., 2022). This disparity was framed as evidence of pharmaceutical companies protecting profit margins, given that Ivermectin was off-patent and inexpensive. Political maneuvering also played a role, particularly in contexts such as the Philippines and Latin America, where politicians promoted Ivermectin as a "people's drug" in contrast to global health agencies' caution, feeding into narratives of institutional suppression (Alibudbud, 2022).

At the same time, **information control strategies**—such as removing Ivermectin-related posts from social media platforms, labeling content as misinformation, and limiting coverage of dissenting medical voices—were viewed as censorship rather than public health protection (Islam et al., 2021). This heightened skepticism, especially in communities already distrustful of elite institutions. For many, the aggressive suppression itself was taken as proof that authorities were concealing the truth.

Thus, while the scientific consensus found Ivermectin ineffective against COVID-19, the **combination of institutional overreach, perceived inconsistencies in drug approval processes, and political-economic dynamics** provided fertile ground for conspiracy theories. These theories gained traction not simply because of misinformation, but because they resonated with genuine political maneuvering, profit-driven disparities, and heavy-handed information controls that characterized the pandemic response.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

The reversal in discourse about Ivermectin and how it was led to even greater confidence in its potency in addressing other illnesses

The discourse surrounding Ivermectin underwent a notable reversal during and after the COVID-19 pandemic. Initially, the drug was promoted by alternative health advocates, politicians, and segments of the public as a cheap and accessible cure for COVID-19. When the medical establishment dismissed these claims, labeling Ivermectin ineffective against the coronavirus, one might have expected interest in the drug to fade. Instead, the backlash to its rejection fostered even greater confidence among supporters, who reframed Ivermectin as a **suppressed "miracle drug"** with broader therapeutic potential. This shift illustrates how discrediting Ivermectin for COVID-19 paradoxically strengthened beliefs in its potency for treating other illnesses, including parasitic diseases, cancers, and even chronic conditions.

Several mechanisms drove this reversal. First, **mistrust of medical institutions** played a central role. By aggressively debunking Ivermectin, health authorities unintentionally validated suspicions that pharmaceutical companies and governments were conspiring to suppress inexpensive treatments (Cheema et al., 2022; Islam et al., 2021). This narrative, already fueled by the drug's affordability and off-patent status, encouraged communities to seek alternative uses as proof of its enduring value.

Second, **scientific ambiguity and preliminary studies** contributed to Ivermectin's rehabilitated reputation. While evidence showed Ivermectin's inefficacy against COVID-19 (Popp et al., 2021), experimental findings continued to suggest potential applications elsewhere. Laboratory studies highlighted its antiviral properties against dengue and Zika, as well as anticancer activity in vitro, such as inhibiting tumor growth through modulation of cellular pathways (Alout & Foy, 2017; Melotti et al., 2021). These studies, while early and not yet clinically validated, circulated widely on social media as "evidence" of Ivermectin's hidden power.

Third, **cultural and political framing** recast Ivermectin as more than a drug—it became a symbol of resistance to medical orthodoxy. In some countries, especially in Latin America and Asia, Ivermectin use persisted as part of broader traditions of self-medication and distrust in Western medical authority (Alibudbud, 2022). Online communities began promoting it not only as a COVID-19 therapy but as a general prophylactic, leading to claims that Ivermectin could treat cancer, cardiovascular disease, and even neurodegenerative disorders.

In effect, the institutional rejection of Ivermectin during the pandemic created a "Streisand effect": the more aggressively it was discredited, the more its supporters embraced and expanded its perceived therapeutic range. Today, Ivermectin's legacy extends far beyond its evidence-based role as an antiparasitic agent, serving instead as a symbol of alternative health, populist resistance, and a supposed panacea for multiple illnesses.

The stigmatization of Ivermectin and the socio-political interests that intensified it

The stigmatization of Ivermectin during the COVID-19 pandemic reflects the intersection of scientific evidence, socio-political interests, and contested narratives of authority. Initially developed as an antiparasitic drug with well-established uses in both human and veterinary medicine, Ivermectin became stigmatized when promoted as a potential cure for COVID-19 without robust supporting evidence. Major health organizations, including the World Health Organization (WHO) and the U.S. Food and Drug Administration (FDA), dismissed these claims after reviewing available clinical data (Popp et al., 2021). However, the forceful labeling of Ivermectin as "horse dewormer" in mainstream discourse not only delegitimized its use against COVID-19 but also stigmatized it beyond its scientifically validated applications (Moynihan, 2021).

The intensification of this stigmatization was closely tied to **socio-political interests**. First, pharmaceutical and governmental stakeholders were deeply invested in the rollout of vaccines and patent-protected antivirals. The framing of Ivermectin as "dangerous" or "misinformation" was interpreted by some groups as serving the commercial interests of Big Pharma, which stood to profit from new treatments while generic Ivermectin offered a cheap alternative (Cheema et al., 2022). This perception of suppression amplified skepticism toward official health authorities and fueled conspiracy theories about deliberate efforts to conceal low-cost therapies (Islam et al., 2021).

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

Second, the drug became a **symbol of political polarization**. In the United States, conservative media figures and politicians championed Ivermectin as a populist alternative to "elitist" medical advice, while liberal and mainstream outlets dismissed it as pseudoscience. This division further entrenched stigmatization: for one side, Ivermectin was a tool of empowerment; for the other, it was emblematic of anti-science extremism (Alibudbud, 2022).

Finally, stigmatization was sustained through **digital amplification**. Social media platforms and fact-checking organizations, pressured to curb health misinformation, aggressively flagged Ivermectin content as misleading (Kata, 2021). While intended to protect public health, these efforts often backfired by reinforcing beliefs among skeptics that Ivermectin's value was being deliberately obscured. Thus, stigmatization became not only a medical issue but also a socio-political one, shaped by economic interests, partisan divides, and information control.

The stigmatization of Ivermectin with how other repurposed drugs were treated

The COVID-19 pandemic saw the widespread use of repurposed drugs like Hydroxychloroquine and Ivermectin, both initially promoted as potential treatments despite limited scientific evidence. Their trajectories, however, diverged significantly, reflecting differing public perceptions and the influence of political and media narratives.

Hydroxychloroquine gained prominence early in the pandemic, largely due to endorsements from political figures such as U.S. President Donald Trump. His public support, including labeling the drug a "game changer," led to increased prescriptions and media coverage (ABC News, 2020). Despite initial enthusiasm, rigorous clinical trials failed to demonstrate its efficacy against COVID-19, and the U.S. Food and Drug Administration (FDA) revoked its emergency use authorization, citing new evidence of ineffectiveness and potential risks (Time, 2020). This reversal contributed to a decline in public trust, as individuals who had relied on the drug felt misled.

Ivermectin, an antiparasitic agent, was also promoted as a COVID-19 treatment by certain groups and individuals, including the Front Line COVID-19 Critical Care Alliance. Their advocacy, often disseminated through social media and alternative media outlets, bypassed traditional scientific channels (UNMC, 2024). Despite the lack of FDA approval for COVID-19 treatment, some states in the U.S. passed legislation allowing over-the-counter sales of Ivermectin, reflecting a continued belief in its efficacy among certain political groups (Washington Post, 2025). This persistent promotion, despite scientific consensus to the contrary, led to public stigmatization, as the drug became associated with misinformation and a disregard for established medical guidance.

In summary, while both Hydroxychloroquine and Ivermectin were initially embraced as potential COVID-19 treatments, their paths diverged due to the nature of their promotion and the subsequent scientific evaluations. Hydroxychloroquine's association with political endorsements and its eventual discrediting led to a loss of public trust, whereas Ivermectin's continued promotion by certain groups, despite scientific evidence, resulted in its stigmatization as a symbol of misinformation. These contrasting experiences underscore the complex interplay between science, politics, and public perception in shaping health interventions during a global pandemic.

Study Framework

This study is grounded in **Risk Perception Theory** (Slovic, 1987), the **Social Amplification of Risk Framework** (Kasperson et al., 1988), and **Agenda-Setting Theory** (McCombs & Shaw, 1972). Risk Perception Theory explains that individuals interpret health information not purely based on objective evidence but through personal beliefs, cultural norms, and trust in authorities. The Social Amplification of Risk Framework highlights how risks are amplified or attenuated through social and media channels, influencing public perceptions and attitudes toward health interventions. Agenda-Setting Theory emphasizes that media coverage shapes which issues gain prominence and how audiences prioritize information. Together, these theories provide a lens for understanding how mainstream media messaging, exemplified by the BBC video

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

debunking Ivermectin, interacts with public perception to produce stigmatization of the drug and its users, as well as public backlash expressed in online comments.

Conceptually, the study posits that the BBC video represents mainstream media framing, emphasizing scientific evidence, potential health risks, and reliance on authoritative sources. Public risk perception acts as a mediating factor, as viewers interpret Ivermectin's credibility and risks through the filter of prior beliefs, trust in media, and personal experiences, consistent with Risk Perception Theory. The interaction between media framing and risk perception manifests as stigmatization, evident through negative sentiment, moral judgments, and social disapproval of Ivermectin and its proponents. Simultaneously, public backlash emerges when viewers challenge the credibility of the video, defend Ivermectin, or criticize perceived media bias. Factors such as trust in media, prior beliefs, cultural norms, and exposure to alternative information sources further shape these outcomes.

Operationally, the study examines these dynamics by analyzing the BBC video and its associated comments. Mainstream media messaging, the independent variable, is operationalized through content analysis, focusing on the framing of Ivermectin, emphasis on scientific evidence, and risk-related statements. Public risk perception, the mediating variable, is assessed through thematic analysis of comments that express perceived health risks, trust in the BBC, and acceptance of scientific claims. Stigmatization and public backlash, the dependent variables, are measured through sentiment and thematic analyses of user comments, capturing negative sentiment, moral judgments, supportive or oppositional discourse, and criticism of media credibility. Control variables, such as demographics, prior beliefs about COVID-19 treatments, and exposure to alternative media, are considered to account for variations in response. The study follows a research flow that begins with content analysis of the BBC video, proceeds to thematic and sentiment analysis of viewer comments, and examines the relationships between media framing, public risk perception, and the emergence of stigmatization and backlash. This integrated framework allows for a systematic exploration of how media messages, filtered through public perceptions of risk, shape online discourse and societal attitudes toward Ivermectin.

Statement of the Problem

The dissemination of information through mainstream media plays a critical role in shaping public perception of health interventions, particularly during a global health crisis. The BBC YouTube video debunking Ivermectin as an alternative COVID-19 treatment has elicited a wide range of responses from viewers, reflecting both acceptance of scientific guidance and resistance to perceived media framing. Comments on the video reveal polarized public attitudes, with some viewers expressing support for the evidence presented while others question the credibility of the information or defend Ivermectin as a legitimate treatment. These interactions suggest the emergence of social stigmatization toward Ivermectin and its proponents, as well as instances of public backlash against the media. However, the dynamics of how stigmatization is constructed and how backlash manifests in online discourse remain underexplored. Understanding these dynamics is critical for clarifying how risk communication, media framing, and public perception intersect to shape attitudes toward controversial health interventions.

Research Questions

1. How do viewers of the BBC YouTube video express positive or negative attitudes toward Ivermectin in their comments?
2. What recurring themes emerge from the comments that indicate stigmatization of Ivermectin and its users?
3. How is public backlash against the BBC video and its content expressed in the comment section?
4. How do commenters reference authority, scientific evidence, or personal experience when supporting or opposing Ivermectin?
5. What linguistic and rhetorical strategies are employed in the comments to reinforce or contest stigmatization?

A key limitation of this study is that it does not fully interrogate the deeper theoretical implications of its findings for the broader field of health communication. While the analysis illuminates how stigmatization and

backlash unfold within online discourse, it stops short of advancing a more systematic theoretical critique or extending existing models of risk perception, social amplification, or agenda-setting. In addition, the study does not engage with counterfactuals or comparative cases that could sharpen its insights—such as examining how public debates over Hydroxychloroquine or Remdesivir followed different trajectories despite similarly being framed as repurposed COVID-19 treatments. These omissions are deliberate, as the intent of the study was to provide a focused qualitative exploration of Ivermectin-related discourse rather than to construct a comparative or theory-driven generalization. Nonetheless, future research could build on this work by situating the findings within broader comparative analyses and by more explicitly interrogating their implications for health communication theory.

A comparative lens contrasting the Ivermectin debate with controversies surrounding other "pandemic drugs" such as Hydroxychloroquine or Remdesivir could have offered valuable insights into whether the dynamics identified in this study are unique to Ivermectin or reflect broader patterns of health communication during crises. Such an approach might have highlighted how differences in political endorsement, regulatory responses, or media framing shaped the social meanings and trajectories of these drugs. However, this direction was not pursued because it would have required a much broader dataset, encompassing multiple cases across varied platforms and contexts, which extends beyond the scope and intent of the present study. The aim here was to provide a focused, in-depth analysis of Ivermectin as a single case of stigmatization and backlash in online discourse, allowing for a more detailed exploration of the interplay between media framing, risk perception, and public engagement. Future research could take up this comparative angle to test the generalizability of the findings and to refine theoretical frameworks for understanding contested health communication.

METHODOLOGY

This study employed a qualitative textual analysis to examine audience responses to the BBC video titled *"The false science around Ivermectin – BBC News"*, which was uploaded on October 7, 2021, on the BBC News YouTube channel, a platform with 18.6 million subscribers. At the time of analysis, the video had garnered 61,000 views and 1,093 comments. To make the data manageable while retaining a representative sample, 500 most recent comments posted 3 years ago at the latest) were selected through convenience sampling.

The selected comments were analyzed to explore patterns of public perception, backlash, and stigmatization related to Ivermectin and its coverage in mainstream media. The analysis followed a systematic process of **open coding**, where each comment was examined for expressed attitudes, tone, and rhetorical strategies. Initial codes were then aggregated into broader **thematic clusters** reflecting recurrent discursive patterns, including ridicule and mockery, skepticism toward Ivermectin, distrust of media sources, promotion of counter-narratives, and moral or ethical judgment.

Each theme was further analyzed for linguistic features, and socio-cognitive implications, enabling the researcher to interpret how commenters reinforced or contested scientific and media narratives. Contextual elements such as sarcasm, humor, and conspiratorial framing were also considered to capture the nuances of online discourse.

Although the data analyzed were publicly available on YouTube, ethical considerations were observed to protect the privacy of users. No personally identifiable information or usernames were reported in the study, and quotes were anonymized. The research focused solely on the textual content of comments for analytical purposes, ensuring that individual commenters could not be directly identified or targeted. This approach aligns with best practices for online research involving publicly accessible user-generated content.

By employing this **qualitative, thematic approach** and adhering to ethical standards, the study was able to systematically interpret a large dataset of online comments, revealing insights into the social, cognitive, and moral dimensions of public responses to contentious health information. The methodology ensured both depth of analysis and practical feasibility, providing a robust framework for understanding how online audiences negotiate trust, authority, and knowledge in digital media spaces.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

RESULTS

How do viewers of the BBC YouTube video express positive or negative attitudes toward Ivermectin in their comments?

Based on the thematic analysis and frequency counts of the BBC YouTube video comments, viewers expressed a range of positive and negative attitudes toward Ivermectin, reflecting distinct patterns of support, skepticism, and distrust.

Negative Attitudes toward Ivermectin were most prominently expressed within the **Dismissive/Critical Reading** cluster. These comments included ridicule and mockery, with statements such as "Crazy people everywhere" and "Wtf is the only response to beeb lies," as well as skepticism toward Ivermectin's efficacy, e.g., "Why would an anti-parasite drug affect a virus anyway?" Some commenters highlighted the limitations of scientific studies, citing examples like "One Australian study in a Petri dish using enough of the drug to kill several people killed covid," which reinforced their dismissive stance.

Positive Attitudes toward Ivermectin were captured mainly in the **Supportive Reading** cluster. Viewers cited personal experiences and anecdotal evidence, such as "It worked for 2 of my family members" and "Hospital gave it 2 me and I felt way better overnight." Other supportive comments highlighted global success narratives ("It's going great in India!!!!!!!" / "AND BRAZIL TOO!") and questioned mainstream meta-analyses, as in "Other meta-analyses come to a positive assessment of Ivermectin." These comments indicate a belief in Ivermectin's potential efficacy despite the BBC video's messaging.

Skeptical or Critical of the BBC comments expressed distrust in the media and allegations of propaganda or corporate influence, e.g., "BBC need fact checking... main author is a medical STUDENT" and "Funding connection between BBC and big pharma, in this case Merck." Other commenters framed the video as deliberately deceptive, claiming "Edited the Joe Rogan clip to make him look yellow/sick" and "The video keeps repeating animal images." While not directly promoting Ivermectin, these comments reflect a defensive or oppositional stance toward the source, indirectly supporting pro-Ivermectin attitudes.

Conspiratorial Reading and **Debate/Meta-Commentary** further illustrate polarized responses, with some users framing COVID-19 as a "PLANDEMIC" or invoking religious/apocalyptic interpretations, while others engaged in disputes over scientific accuracy, e.g., "Please stop spreading misinformation Stefano" or critiquing experts' relevance: "Dr Sheldrick needs to stick to MRI and back pain."

In summary, positive attitudes tended to draw on personal and global narratives, while negative attitudes relied on ridicule, scientific skepticism, or trust in established evidence. Skepticism toward the BBC often mediated these attitudes, illustrating how perceptions of media credibility influence public reception of controversial health information.

What recurring themes emerge from the comments that indicate stigmatization of Ivermectin and its users?

Based on the thematic analysis of the BBC YouTube comments, several recurring patterns reveal the stigmatization of Ivermectin and its users.

Ridicule and mockery. One prominent theme is ridicule and mockery, where users openly derided both Ivermectin and its proponents, using statements such as "Crazy people everywhere" and "Wtf is the only response to beeb lies." This reflects overt social judgment and demeaning attitudes directed at those supporting the drug.

Skepticism. Another theme is skepticism of Ivermectin claims, with commenters questioning the plausibility of Ivermectin as a COVID-19 treatment, exemplified by remarks like "Why would an anti-parasite drug affect a virus anyway?" By portraying users as misinformed or naïve, this skepticism contributes to cognitive stigmatization. Similarly, highlighting the limitations of scientific studies on Ivermectin, as in comments such as "One Australian study in a Petri dish using enough of the drug to kill several people killed covid," frames

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

users relying on anecdotal or non-mainstream evidence as scientifically ignorant, reinforcing both social and intellectual stigmatization.

Distrust. Distrust in users who support alternative narratives also emerged, with many comments suggesting that Ivermectin proponents are manipulated by misinformation or corporate interests, exemplified by statements like "Funding connection between BBC and big pharma, in this case Merck." While these critiques partly target media bias, they indirectly stigmatize users as gullible or complicit in spreading false information.

Debate and moral judgment. Finally, debate and moral judgment were common, with commenters challenging the credibility of Ivermectin supporters through ethical or normative arguments, such as "Please stop spreading misinformation Stefano" and "Respected by who? Al Capone was also very respected," implying moral or social inferiority.

Overall, stigmatization of Ivermectin and its users in the comment section manifests through ridicule, skepticism, scientific discrediting, and moral judgment. Users advocating for the drug are frequently portrayed as ignorant, gullible, or morally irresponsible, while Ivermectin itself is mocked or dismissed. Collectively, these recurring themes demonstrate how online discourse can reinforce social, cognitive, and moral stigma toward individuals aligned with controversial health interventions.

How is public backlash against the BBC video and its content expressed in the comment section?

Based on the thematic analysis of the BBC YouTube comments, public backlash against the video is expressed through several distinct patterns.

Distrust and accusations of bias. A significant portion of viewers exhibited distrust and accusations of bias, questioning the credibility of the BBC and framing it as propagandistic. Comments such as "BBC need fact checking... main author is a medical STUDENT" and "BBC Bullsh$1 broadcast Crap" reflect an explicit rejection of the media source, signaling backlash by challenging the authority and reliability of the content.

Allegations of corporate or political manipulation. Allegations of corporate or political manipulation also emerged, with statements like "Funding connection between BBC and big pharma, in this case Merck" and "Bill Gates funding BBC" suggesting that the BBC's messaging is perceived as serving vested interests, thereby fueling resistance to its narrative.

Claims of deception and propaganda. Claims of deception and propaganda further reinforced backlash, as some commenters accused the video of manipulating content or presenting misleading visuals, for example, "Edited the Joe Rogan clip to make him look yellow/sick" and "The video keeps repeating animal images," framing the BBC as deliberately deceptive.

Promotion of direct counter-narratives supporting Ivermectin. Backlash also manifested through the promotion of direct counter-narratives supporting Ivermectin, with users sharing alternative evidence, personal experiences, or reports from other countries, such as "It worked for 2 of my family members," "Hospital gave it 2 me and I felt way better overnight," and "It's going great in India!!!!!!!"

Debates and fact-checking disputes. Finally, debates and fact-checking disputes appeared as users actively challenged statements or sources cited in the video, as seen in comments like "Please stop spreading misinformation Stefano" and "Dr Sheldrick needs to stick to MRI and back pain," demonstrating active contestation of the BBC's framing.

Overall, public backlash is expressed through distrust of the media, accusations of bias or manipulation, claims of deception, promotion of counter-narratives, and active debate over scientific claims. This pattern highlights a substantial portion of viewers resisting mainstream media framing while defending Ivermectin, underscoring the polarized and contested nature of online health discourse.

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How do commenters reference authority, scientific evidence, or personal experience when supporting or opposing Ivermectin?

Based on the comments analyzed, commenters referenced authority, scientific evidence, and personal experience in the following ways when supporting or opposing Ivermectin:

Personal Experience / Testimonials. Many commenters rely on firsthand experience to support Ivermectin's effectiveness. Statements like "It worked for 2 of my family members" or "It helped me…hospital gave it 2 me and felt way better overnight" are used to assert credibility and persuade others through anecdotal evidence. This appeals to emotion and the perceived reliability of lived experience.

Appeals to Authority / Experts. Some commenters invoke the opinions of individuals they consider credible, such as Dr. Robert Malone ("one of the inventors of the mRNA vaccines") or Dr. John Campbell ("Please refer to Dr. John Campbell's 'debunking the BBC debunk of Ivermectin'"). These references are used to lend legitimacy to their claims and challenge mainstream media narratives.

Citation of Scientific Studies/Data. Select commenters cite published studies, systematic reviews, or meta-analyses, often selectively interpreted, to bolster their arguments. Examples include references to the 2020 systematic review in *The Journal of Antibiotics* and meta-analyses assessing Ivermectin's antiviral effects. These citations are intended to create the impression of scientific rigor, even when the context or limitations of the studies are debated.

Critique of Scientific Authority/Institutional Skepticism. Some commenters challenge the credibility of mainstream science or media institutions, questioning peer review, author qualifications, or funding sources. Comments such as "BBC need fact checking…main author is a medical STUDENT…no peer review" and "There is a funding connection between BBC and big pharma, in this case Merck" illustrate how perceived bias or conflict of interest is used to undermine opposing evidence.

Comparison with Other Sources / Analogies. Certain commenters contrast Ivermectin with other treatments, vaccines, or drugs, or use analogies to argue their point. For instance, "Remember when Trump said to inject bleach we didn't all run to get Domestos" is used to dismiss criticism of Ivermectin based on perceived overreaction to other health guidance.

Blending Scientific Language with Personal Belief. Many comments combine technical terms (e.g., "in vitro vs. in vivo," "RNA viruses," "nanograms") with personal interpretation to support Ivermectin. This strategy conveys scientific literacy to persuade readers while embedding personal or ideological positions.

Hence, commenters employ a mix of **anecdotal evidence, appeals to authoritative figures, selective scientific citations, and skepticism toward mainstream institutions** to support or contest Ivermectin's use, often blending emotion, personal belief, and science-like rhetoric to reinforce their positions.

What linguistic and rhetorical strategies are employed in the comments to reinforce or contest stigmatization?

Based on the thematic analysis of the BBC YouTube comments, several **linguistic and rhetorical strategies** are employed by commenters to reinforce or contest the stigmatization of Ivermectin and its users:

Ridicule and Mockery. Many comments use humor, sarcasm, or derogatory language to demean Ivermectin users, e.g., "Crazy people everywhere" and "Wtf is the only response to beeb lies." This strategy reinforces stigmatization by framing supporters as irrational, gullible, or socially inferior.

Questioning Credibility / Skeptical Framing. Commenters often challenge the expertise or authority of both the BBC and Ivermectin proponents, using rhetorical questions or highlighting perceived scientific flaws: "Why would an anti-parasite drug affect a virus anyway?" and "One Australian study in a Petri dish using enough of the drug to kill several people killed covid." By casting doubt on the validity of claims, commenters reinforce social and cognitive stigma toward users.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

Conspiracy and Allegation. Some comments employ insinuation and conspiratorial rhetoric to contest stigmatization or justify support for Ivermectin, e.g., "Funding connection between BBC and big pharma, in this case Merck" and "Bill Gates funding BBC." These strategies redirect blame from users to external actors, framing the perceived stigma as a product of manipulation rather than an accurate critique.

Anecdotal and Narrative Evidence. Pro-Ivermectin comments often rely on personal stories or global success narratives to contest stigmatization, e.g., "It worked for 2 of my family members" and "It's going great in India!!!!!!!" This rhetorical strategy humanizes users and validates their experiences, countering negative judgments.

Moral and Ethical Framing. Debate and meta-commentary often employ moral arguments or appeals to fairness, e.g., "Please stop spreading misinformation Stefano" and "Respected by who? Al Capone was also very respected." These strategies reinforce or contest stigma by positioning commenters or users as ethically right or wrong, appealing to shared societal norms.

Hyperbole and Emphasis. Exaggeration, capitalization, and multiple punctuation marks are frequently used to amplify emotional impact, e.g., "It's going great in India!!!!!!!" or "BBC Bullsh$1 broadcast Crap." This intensifies either stigmatization or defense, depending on the stance of the commenter.

Direct Address and Engagement. Many comments engage directly with other users or the video content to assert authority or challenge perspectives, e.g., "Dr Sheldrick needs to stick to MRI and back pain." This rhetorical strategy creates interactive discourse that reinforces the contested nature of stigmatization online.

Commenters employ a combination of **humor, ridicule, skepticism, conspiracy framing, personal narratives, moral reasoning, hyperbole, and direct engagement** to either reinforce or contest stigmatization of Ivermectin and its users. These linguistic and rhetorical strategies shape how stigma is socially constructed in the online environment, highlighting the interplay of persuasion, identity, and perceived credibility in polarizing health debates.

DISCUSSION

The comments section of the BBC video *"The false science around Ivermectin – BBC News"* provided a vivid site for public engagement with the institutionalized stigmatization of Ivermectin and its users. Viewer responses ranged from overtly supportive to sharply critical, reflecting the polarized nature of online health discourse. Negative attitudes toward Ivermectin, primarily within the Dismissive/Critical Reading cluster, included ridicule, mockery, and skepticism regarding the drug's efficacy, with statements such as "Crazy people everywhere" and "Why would an anti-parasite drug affect a virus anyway?" These comments not only devalue the drug but also socially and cognitively stigmatize its users, portraying them as ignorant, gullible, or morally irresponsible. Such reactions exemplify the processes outlined in **Risk Perception Theory** (Slovic, 1987), where individuals evaluate health information not solely based on scientific evidence but through personal beliefs, cultural norms, and trust in authoritative sources. In this context, viewers' negative perceptions of Ivermectin are mediated by their trust in mainstream media and prior understanding of COVID-19 treatments.

Positive attitudes, captured mainly in the Supportive Reading cluster, drew on personal experiences and global success narratives, such as "It worked for 2 of my family members" and "It's going great in India!!!!!!!" These comments counter stigmatization by humanizing users and validating their experiences. Additionally, skepticism toward the BBC itself—reflected in comments accusing the network of bias, corporate influence, or deceptive practices—illustrates how public risk perception interacts with media framing. According to the **Social Amplification of Risk Framework** (Kasperson et al., 1988), online discourse serves as a channel that can amplify or attenuate perceived risks; in this case, criticism of media credibility functions to attenuate the institutionalized risk narrative presented by the BBC and indirectly supports pro-Ivermectin positions.

Public backlash was further expressed through promotion of counter-narratives, debates, and fact-checking disputes, highlighting the active contestation of mainstream messaging. Commenters employed a variety of

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI | Volume XII Issue XV September 2025 | Special Issue on Public Health

linguistic and rhetorical strategies—humor, sarcasm, conspiratorial framing, anecdotal evidence, moral reasoning, and hyperbole—to either reinforce or contest stigmatization. These strategies demonstrate how **Agenda-Setting Theory** (McCombs & Shaw, 1972) operates online: while the BBC video sought to prioritize scientific evidence and mainstream health narratives, viewers' engagement with the comment section shows how audiences can reshape issue salience, challenge dominant frames, and assert alternative perspectives.

Integrating these theoretical perspectives, the BBC video represents mainstream media framing that emphasizes scientific authority and the potential risks of Ivermectin. Public risk perception acts as a mediating factor, influencing whether viewers accept, reject, or reinterpret the messaging. Negative sentiment, ridicule, and moral judgment illustrate stigmatization, while direct counter-narratives, personal stories, and critiques of media credibility constitute public backlash. The interplay between media framing, risk perception, and online discourse underscores how stigmatization is socially constructed yet simultaneously contested, highlighting the complex dynamics of trust, belief, and knowledge negotiation in digital health communication.

Based on the findings from the BBC YouTube comments, the nature of stigmatization surrounding Ivermectin and its users is multifaceted, encompassing social, cognitive, and moral dimensions. Socially, users supporting Ivermectin were often ridiculed and mocked, portrayed as irrational, gullible, or socially inferior through comments such as "Crazy people everywhere" and "Wtf is the only response to beeb lies." Cognitively, stigmatization manifested as skepticism toward the validity of Ivermectin itself, with commenters questioning scientific plausibility or emphasizing the limitations of studies, e.g., "Why would an anti-parasite drug affect a virus anyway?" and "One Australian study in a Petri dish using enough of the drug to kill several people killed covid." Morally, commenters framed Ivermectin users as ethically or socially irresponsible, using normative judgments like "Respected by who? Al Capone was also very respected." Together, these patterns illustrate how stigma operates not only through overt ridicule but also by undermining knowledge credibility and moral authority, creating a compounded barrier for public acceptance and discussion of controversial health interventions.

Countering this stigmatization requires strategies that address its social, cognitive, and moral dimensions simultaneously. First, promoting **evidence-informed yet respectful dialogue** can reduce ridicule and moral judgment, emphasizing understanding rather than condemnation. Highlighting **credible personal narratives and global case studies**, as seen in supportive comments like "It worked for 2 of my family members" and "It's going great in India!!!!!!!," can humanize users and counter cognitive devaluation, bridging gaps between scientific evidence and lived experience. Third, improving **media literacy and critical engagement** with sources can mitigate unwarranted moral and social judgments, helping audiences differentiate between scientific consensus, media framing, and misinformation. Finally, fostering **inclusive public health communication** that acknowledges uncertainty, varying perspectives, and cultural beliefs can reduce the reinforcement of stigma while encouraging constructive debate.

In essence, the findings suggest that stigmatization of Ivermectin and its users is socially constructed through ridicule, skepticism, and moral judgment but can be contested through humanizing narratives, transparent communication, and strategies that promote critical yet respectful engagement with both evidence and differing viewpoints. By addressing stigma across these dimensions, public discourse can shift toward a more informed, empathetic, and less polarizing conversation around controversial health interventions.

The findings from the BBC YouTube comments illustrate that stigmatization surrounding Ivermectin is not only a matter of scientific disagreement but also a product of how health communication intersects with public trust, cultural identity, and media framing (Moynihan, 2021; Slovic, 1987). As such, addressing similar controversies in the future requires more than evidence dissemination—it demands proactive, nuanced strategies in both policy and communication.

From a policy perspective, governments and health authorities should invest in risk communication frameworks that anticipate polarization and build mechanisms for respectful dialogue. Instead of framing certain drugs or practices solely in terms of debunking, policies should encourage transparent communication about evidence uncertainties, evolving scientific processes, and the rationale behind public health recommendations (Popp & Weibel, 2021; World Health Organization, 2021). Doing so could mitigate the

perception of suppression and reduce opportunities for counter-narratives rooted in distrust (Islam et al., 2021). At the same time, regulatory and communication policies should be coordinated to prevent heavy-handed censorship that often backfires, amplifying suspicions and reinforcing the very misinformation it seeks to suppress (Kata, 2021).

In terms of communication strategies, public health messaging must account for the social, cognitive, and moral dimensions of stigma revealed in this study. First, communicators should emphasize empathetic engagement with audiences, acknowledging lived experiences without dismissing them as mere misinformation. Highlighting personal narratives in tandem with scientific evidence could humanize health interventions while fostering credibility (Alibudbud, 2022). Second, campaigns should focus on media literacy, equipping citizens with tools to critically assess sources and differentiate between scientific consensus and anecdotal claims (Kautsar et al., 2025). Finally, adopting inclusive messaging that respects cultural differences and acknowledges uncertainty can help reduce moral polarization and create space for constructive debate rather than ridicule (Kasperson et al., 1988; McCombs & Shaw, 1972).

Ultimately, the case of Ivermectin underscores that effective health communication in the digital age is as much about building trust and legitimacy as it is about transmitting accurate facts. Future policies and strategies should prioritize dialogue over dismissal, transparency over control, and inclusivity over stigmatization. By addressing the roots of distrust and fostering critical yet respectful engagement, public discourse can evolve toward a more balanced, empathetic, and informed environment—one that better equips societies to navigate contested health interventions in future crises.

CONCLUSION

The analysis of the BBC YouTube comments underscores the importance of designing health communication strategies that balance accuracy with sensitivity to public perceptions. The findings suggest that stigmatization of controversial treatments, such as Ivermectin, often arises not only from scientific critique but also from social ridicule and moral judgment, which risk alienating audiences and reinforcing polarization. For media organizations, this highlights the need to report on contested health interventions in ways that foreground scientific consensus while avoiding rhetorical frames—such as ridicule or overly simplistic metaphors—that may inadvertently stigmatize users. Public health communicators, meanwhile, must recognize that backlash thrives where distrust of institutions is already strong. Efforts to counter misinformation should therefore emphasize transparency, respect for lived experiences, and acknowledgment of uncertainty rather than relying solely on authoritative rebuttals. By integrating empathy with evidence and fostering media literacy, communicators can mitigate both stigmatization and backlash, creating space for more constructive dialogue around controversial health issues. Ultimately, these strategies point toward a future in which public health communication is not only about transmitting facts but also about cultivating trust, inclusion, and mutual understanding in a fragmented media environment.

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