

The Benadryl Challenge: Why public health officials are struggling to stop this deadly trend

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The Benadryl Challenge, a dangerous social media trend encouraging adolescents to ingest excessive doses of diphenhydramine to induce hallucinations, continues to pose a significant public health threat. This challenge has led to numerous emergency department visits, severe cardiac events, seizures, and fatalities among young people. Public health agencies face an uphill battle in mitigating the spread of such viral trends, particularly given the rapid dissemination of content across platforms like TikTok.

KEY TAKEAWAYS

- ° The Pivot: Public health messaging is shifting from reactive warnings to proactive, multi-platform engagement and educational campaigns.
- ° The Data: Diphenhydramine overdose can cause QTc prolongation, wide complex tachycardia, and seizures, with doses as low as 7.5 mg/kg body weight proving lethal in some cases.
- ° The Action: Clinicians should counsel adolescent patients and their parents on the dangers of medication misuse, specifically highlighting the risks associated with diphenhydramine.

Diphenhydramine, an antihistamine available over-the-counter, is widely used for allergy symptoms, insomnia, and motion sickness. At therapeutic doses, it acts primarily as an H1 receptor antagonist, but at supratherapeutic levels, its anticholinergic properties become pronounced. These effects include central nervous system depression or excitation, hallucinations, dilated pupils, dry mouth, urinary retention, and tachycardia. The drug's accessibility and perceived innocuousness contribute to its misuse, particularly among adolescents seeking to replicate viral social media stunts.¹ The Benadryl Challenge gained notoriety through platforms like TikTok, where users filmed themselves ingesting large quantities of the drug and documenting the subsequent hallucinogenic effects. This trend, while not new in the realm of medication misuse, escalated rapidly due to the amplification inherent in social media algorithms. The target demographic, primarily adolescents, is particularly susceptible to peer influence and the pursuit of viral fame, often without a full understanding of the severe physiological consequences.¹

The Clinical Picture of Diphenhydramine Toxicity

Acute diphenhydramine overdose presents with a characteristic anticholinergic toxidrome. Patients often exhibit altered mental status ranging from agitation and delirium to coma. Peripheral signs include mydriasis, dry mucous membranes, flushed skin, and urinary retention. Cardiovascular effects are particularly concerning, with tachycardia being common. More severe cases can lead to significant cardiac arrhythmias, including wide complex tachycardia and QTc prolongation, which can degenerate into ventricular fibrillation. Seizures are also a frequent complication,

particularly with higher doses.²

The dose required to induce severe toxicity varies, but ingestions exceeding 7.5 mg/kg body weight have been associated with fatalities. For an average 50 kg adolescent, this translates to approximately 375 mg, or 15 standard 25 mg Benadryl tablets. However, individual susceptibility can lead to severe outcomes at lower doses. Management in the emergency setting focuses on supportive care, including airway management, intravenous fluids, and benzodiazepines for agitation or seizures. Physostigmine, a cholinesterase inhibitor, can reverse severe anticholinergic symptoms, but its use requires careful consideration due to potential cardiac side effects.²

Public Health's Multi-pronged Response

Public health officials are implementing a multi-pronged strategy to counter the Benadryl Challenge. One key approach involves direct engagement with social media platforms. TikTok, for instance, has committed to removing content promoting the challenge and redirecting users searching for related terms to safety resources. This platform-level intervention is critical, as it directly addresses the mechanism of viral spread. However, the ephemeral nature of online content and the constant evolution of hashtags and search terms make sustained enforcement challenging.³

Another pillar of the response is public education. Health agencies are developing targeted campaigns aimed at adolescents, parents, and educators. These campaigns emphasize the severe health risks associated with diphenhydramine misuse, using clear, non-judgmental language. The messaging often includes testimonials from individuals who have experienced adverse effects or from families who have lost loved ones to the challenge. The goal is to shift perceptions from a harmless dare to a life-threatening activity.⁴

Healthcare providers also play a crucial role. Clinicians, particularly those in primary care and emergency medicine, are being encouraged to proactively discuss the dangers of medication misuse with adolescent patients and their families. This includes counseling on safe medication storage, the importance of adhering to prescribed dosages, and the specific risks of over-the-counter drugs like diphenhydramine. The Oxford Handbook of Paediatrics offers a concise reference for managing acute poisonings in younger patients, providing essential guidance for frontline clinicians. Recognizing the signs of anticholinergic toxicity and initiating prompt treatment can be life-saving.⁵

Challenges and Limitations in Intervention

Despite these efforts, significant challenges persist. The decentralized nature of social media makes it difficult to completely eradicate harmful content; once a trend gains traction, it can quickly migrate to other platforms or evolve into new iterations. Adolescents are often adept at circumventing content moderation policies, using coded language or private groups to share information. Furthermore, the underlying psychological factors driving participation, such as peer pressure, a desire for attention, or mental health struggles, are complex and require broader societal interventions beyond simple warnings.⁶

The effectiveness of educational campaigns is also limited by reach and engagement. While official health messages are crucial, they often struggle to compete with the viral appeal of social media trends. Crafting messages that resonate with a young audience, without inadvertently amplifying the challenge, is a delicate balance. Some critics argue that simply naming the challenge, even in a warning, can inadvertently increase its visibility. This highlights the need for continuous research into effective communication strategies for digital natives.⁷

Finally, regulatory measures regarding over-the-counter access to diphenhydramine remain a point of discussion. While

restricting access could theoretically reduce misuse, it also impacts legitimate patients who rely on the drug for therapeutic purposes. Any regulatory changes would need careful consideration of the potential unintended consequences and the broader public health impact. The current focus remains on education and platform intervention, acknowledging the practical difficulties of controlling access to a widely available medication.⁸

CLINICAL IMPLICATIONS

The ongoing Benadryl Challenge underscores a critical gap in adolescent health education regarding medication safety. Clinicians cannot assume that over-the-counter status equates to safety, particularly when social media incentivizes misuse. Proactive discussions with patients and parents about the dangers of diphenhydramine toxicity are now essential, not merely reactive responses to an emergency.

Emergency departments will continue to see cases of diphenhydramine overdose. Recognizing the anticholinergic toxidrome and initiating appropriate supportive care, including cardiac monitoring and seizure management, is paramount. The potential for severe arrhythmias and neurological complications means these are not benign ingestions.

Pharmaceutical companies and regulatory bodies must also consider their role. While diphenhydramine serves legitimate medical purposes, its widespread availability and packaging may inadvertently contribute to its misuse in the context of viral challenges. Exploring options for more secure packaging or clearer warnings, without unduly burdening consumers, warrants consideration.

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