

Review Article

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Ethical Issues in Advertising Weight Loss Drugs to Patients: A Synthetic Experiment Using LLMs (Large Language Models) to Suggest How Education Might Help People to Address the Issues

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ABSTRACT

Using LLMs (large language models), the paper shows how to approach the ethical issues involved in the increasingly popular strategy of advertising prescription-only weight loss drugs directly to consumers. The paper shows the background, the issues, the benefits of creating “stories” to give the topic a deeper sense of reality. The paper finishes by using LLMs to synthesize and then prescribe ten different aspects of a course devoted to critical thinking about the topic.

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Abbreviations

Chat GPT: Chat Generative Pre-training Transformer
LLM: Large Language Model

Introduction

Advertising weight loss medications directly to consumers raises ethical problems around patient safety, autonomy, and informed decision-making. There are at least five different areas where these ethical issues arise:

1. Prescription weight reduction medications include possible side effects and hazards that need to be carefully considered by individuals and healthcare professionals. When these medications are advertised to consumers via doctor’s offices and social media, individuals could be persuaded to request the treatment without fully grasping the possible repercussions [1,2].
2. When a patient views an advertising for a weight reduction medication, they can be enticed by the promise of rapid and easy outcomes. Individuals could experience pressure to attain a certain body image or weight objective, prompting them to pursue the medicine without properly evaluating the associated dangers [3].
3. Healthcare providers may face conflict between delivering

evidence-based treatment and matching patient expectations when selling weight loss medicines directly to patients. Doctors may feel compelled to provide these treatments to patients who ask for them, even if they have concerns about the possible dangers [4].

4. Pharmaceutical businesses promoting weight loss medications may use direct-to-consumer advertising as a method to boost sales and reach a broader customer base. They could highlight the advantages of the prescription while minimizing the possible drawbacks, causing patients to see the treatment as a miraculous remedy [5,6].
5. Advertising agencies producing campaigns for weight reduction treatments may emphasize the emotional attraction of the prescription, using strategies to evoke a feeling of urgency and longing among patients. They could use before-and-after pictures, endorsements, and compelling language to persuade clients that the product would transform their life [7].

The Contribution of Critical Questions

When considering the ethics of advertising weight loss drugs to patients, it is instructive to ask critical questions about the potential implications for patient safety and autonomy. For this paper we used ChatGPT 3.5, an LLM (large language model). This LLM is embedded in the Idea Coach module of the Mind Genomics platform, BimiLeap.com. The user need only write the prompt in

simple English, being sure to make the prompt unambiguous [8].

Seven of the 15 questions which emerged from the first iteration appear below. Each iteration of Idea Coach generated another set of 15 questions, some of which were new, some repeats.

1. How can patients make informed decisions about their health when they are influenced by advertising messages that prioritize profit over well-being?
2. What role should healthcare providers play in educating patients about the risks and benefits of weight loss medications?
3. Are pharmaceutical companies responsible for ensuring that their advertising campaigns are transparent and accurate in presenting the risks and benefits of their products?
4. Is direct-to-consumer advertising an appropriate method for promoting weight loss drugs, or does it exploit vulnerable patients who may be swayed by promises of quick fixes and easy solutions?
5. How can patients navigate the complex landscape of weight loss medications in a way that prioritizes their health and well-being?
6. What ethical considerations should healthcare providers, pharmaceutical companies, and advertising agencies take into account when promoting weight loss drugs to patients?
7. How can patients advocate for themselves and make informed decisions about weight loss medications in a healthcare system that is influenced by profit-driven advertising practices?

The questions emphasize the intricate ethical dilemmas involved in promoting weight reduction medications to patients. As the healthcare industry continues to grapple with the balance between patient autonomy and informed decision-making, it is important for all stakeholders to consider the potential implications of direct-to-consumer advertising on patient health and well-being.

Moving from Questions to Synthesized Stories about those Dealing with Weight Loss

Synthesizing stories with quotations, especially with the topics dealt with here, ended up having a strong didactic value. The reason is simple: the stories engage listeners, subtly allowing them to understand the different aspects of complicated subjects. Educators may enhance the relevance and memorability of the subject being taught by including synthesized, relevant quotations into their narratives. This method enables a deeper learning experience by fostering a personal connection between learners and the topic [9-11].

Combining tales with quotations promotes the development of critical thinking abilities in pupils by prompting them to evaluate and understand the meaning of both the story and the quotes. This technique may stimulate animated conversations and arguments in the classroom, as participants express their viewpoints and ideas on the content being studied. Combining narratives with quotations may foster empathy and emotional intelligence by enabling people to gain insight into other viewpoints and life experiences. Finally, combining stories with quotations might enhance people's creative and expressive skills by motivating them to craft their own stories and insights from the information provided [12-15].

Table 1 shows two "synthesized" stories, the first dealing with those who have lost weight, the second dealing with those who have failed to lose weight. The stories are written from the point

of view of a third person observing their interactions and recording their quotes.

Table 1: Synthesized stories of individuals who have lost weight vs individuals who have failed to lose weight

I. "Stories" From Those Who Have Successfully Lost Weight Using These Direct to Consumer but Prescription-Only Weight Loss Drugs

Upon receiving the prescription weight loss drugs and experiencing success, the group of patients are likely to feel a sense of accomplishment and satisfaction. One patient might say, "I can finally fit into clothes I haven't worn in years!" Another might express gratitude, saying "I never thought I could lose this much weight."

As they continue to see progress, the patients may start receiving compliments from friends and family, further boosting their confidence. They may also start to notice changes in their overall health, such as improved energy levels and mobility. One patient could say, "I no longer have to rely on medications for my high blood pressure thanks to this weight loss drug."

With the weight loss journey well underway, the group of patients may start to engage in new activities and hobbies that they previously avoided due to their weight. They may also become more social and outgoing, attending events and gatherings they once shied away from. One patient could share, "I feel like a whole new person since starting this medication."

As they near their weight loss goals, the patients may start to become anxious about maintaining their progress. They may worry about relapsing and gaining the weight back. One patient might confess, "I'm afraid of going back to my old habits and undoing all the hard work I've put in."

Despite their concerns, the patients are likely to receive continued support from their healthcare providers and the community of others taking the same weight loss drugs. They may attend support groups, seek advice on online forums, or share their journey on social media. One patient could say, "Having a support system has been key to my success."

Once they reach their desired weight, the patients may experience mixed emotions. While they are thrilled with their transformation, they may also struggle with body image issues or fear of regaining the weight. One patient might express, "I'm proud of what I've accomplished, but I'm scared of not being able to maintain it."

To cope with these emotions, the patients may continue to follow a healthy diet, exercise regularly, and attend follow-up appointments with their healthcare providers to monitor their progress. They may also seek therapy or counseling to address any underlying issues related to their weight. One patient could share, "It's important for me to focus on my mental health as well as my physical health."

Overall, the group of patients who have had success with prescription weight loss drugs are likely to be more confident, healthy, and active individuals. They may inspire others to take control of their own weight and health. One patient might say, "I never thought I could achieve this level of success, but I'm so grateful for the opportunity to live a happier and healthier life."

II. “Stories” From Those Who Have Failed to Lose Weight on These Direct to Consumer but Prescription-Only Weight Loss Drugs

As a group of patients who have had little luck with prescription weight loss drugs, we are likely feeling frustrated, disappointed, and even defeated. We may have invested time and money into these medications, only to see minimal results or none at all. We may have had high hopes and expectations, only to be let down by the lack of progress in our weight loss journey.

Some of us may feel embarrassed or ashamed that we have not been able to achieve our weight loss goals despite trying different medications. Others may feel angry at the pharmaceutical companies for promising results that were not delivered. Overall, we are likely feeling disillusioned and unsure of what to do next.

As we come to terms with the failure of prescription weight loss drugs, we may begin to explore alternative methods of weight loss such as dietary changes, exercise routines, or natural supplements. Some of us may turn to weight loss support groups or seek the guidance of a nutritionist or fitness coach for personalized advice. In conversations with each other, we may express our frustrations and share our experiences with different prescription weight loss drugs. We may offer words of encouragement, sympathy, or advice to each other as we navigate through this setback in our weight loss journey. Some of us may seek solace in humor or find comfort in knowing that we are not alone in our struggles.

One member of the group may say, “I feel like I’ve tried everything and nothing is working. I don’t know what else to do.” Another may express, “I thought these drugs were supposed to be a miracle solution, but they haven’t done anything for me. I feel so discouraged.” Yet another may admit, “I’ve been avoiding social situations because I’m embarrassed about my weight. I just want to feel comfortable in my own skin again.”

As we reflect on our experiences with prescription weight loss drugs, we may come to accept that there is no quick fix or magic pill for weight loss. We may acknowledge the importance of patience, perseverance, and a holistic approach to achieving our health goals. Despite the setbacks, we may find renewed determination to pursue a healthier lifestyle and prioritize self-care.

In the midst of our struggles with weight loss, we may have questions about the effectiveness of prescription drugs, the potential risks and side effects, and the best course of action moving forward. We may wonder if there are other options available that could help us reach our weight loss goals. We may seek advice, guidance, and support from healthcare professionals, friends, or family members in our quest for a healthier and happier life.

Overall, the failure of prescription weight loss drugs has brought us together as a group of individuals facing similar challenges. Despite the disappointment and setbacks, we are united in our determination to overcome obstacles, take control of our health, and ultimately find success in our weight loss journey.

Moving towards a Solution Through Education

Developing an educational course focused on the ethics of direct-to-consumer medication advertising should address the ethical dilemmas often associated with advertising practices. By concentrating on the ethics of this sort of advertising, students should develop an appreciation of the hazards and effects linked to advertising pharmaceutical items to customers. The course

would enable students to participate in meaningful discussions and debates on the ethical issues of direct-to-consumer advertising. Students would analyze case studies and real-life examples to address the influence of these advertising on patients, healthcare professionals, and society in general. By emphasizing the ethics of direct-to-consumer drug advertising in a specific course, students should acquire the skills and information needed to tackle the ethical dilemmas often associated with this kind of advertising, advertising which is becoming ubiquitous and seemingly better executed and harder to ignore.

Table 2 presents the 10 steps of this course, again synthesized by LLM. The input instructions to LLM were to develop the course for college or for professional scale, doing so in 10 steps. Each step was to be presented as the task to be done, then two quotes to put the task into perspective, and finally the reason for the quotes. It is important to keep in mind that the suggestions are just that, suggestions proffered by the LLM. Furthermore, the instructions did not specify anything other than critical thinking for the topic (advertising prescription drugs on social media).

Table 2: The ten steps for developing the course for college or for profession school dealing with the ethics of advertising prescription drugs (especially weight loss drugs) directly to consumers

Step 1: Define the Learning Objectives

This step involves clearly outlining what students should be able to understand and apply after completing the course, such as understanding the legal and ethical considerations of advertising prescription drugs on social media.

“Education is the passport to the future, for tomorrow belongs to those who prepare for it today.” - Malcolm X

“The beautiful thing about learning is that no one can take it away from you.” - B.B. King

Reason for quotes: These quotes emphasize the importance of education and preparation for the future, highlighting the value of critical thinking skills in navigating complex ethical issues like prescription drug advertising.

Step 2: Develop A Curriculum Outline

This involves creating a structured plan for the course, including specific topics to be covered, activities, assessments, and resources.

“Plans are nothing; planning is everything.” - Dwight D. Eisenhower

“The expert in anything was once a beginner.” - Helen Hayes

Reason for quotes: These quotes remind students that the process of planning and preparation is essential for success, and that everyone starts as a beginner before becoming an expert.

Step 3: Design Interactive Learning Activities

Engage students in hands-on exercises, discussions, case studies, and role-playing scenarios to apply critical thinking skills in real-world situations.

“Tell me and I forget, teach me and I may remember, involve me and I learn.” - Benjamin Franklin

“Learning is experience. Everything else is just information.” - Albert Einstein

Reason for quotes: These quotes underscore the importance of experiential learning and active engagement in the educational process, emphasizing the value of practical application of knowledge.

Step 4: Incorporate Diverse Perspectives

Encourage students to consider various viewpoints, including

those of healthcare professionals, marketers, regulators, and consumers, in analyzing the ethical implications of prescription drug advertising.

“The art of teaching is the art of assisting discovery.” - Mark Van Doren

“It is the supreme art of the teacher to awaken joy in creative expression and knowledge.” - Albert Einstein

Reason for quotes: These quotes highlight the role of educators in fostering curiosity, creativity, and critical thinking skills in students, emphasizing the importance of promoting intellectual growth and exploration.

Step 5: Foster Ethical Reasoning

Challenge students to evaluate the ethical dilemmas inherent in direct-to-consumer advertising of prescription drugs and to develop reasoned arguments for their positions.

“Ethics is knowing the difference between what you have a right to do and what is right to do.” - Potter Stewart

“The time is always right to do what is right.” - Martin Luther King Jr.

Reason for quotes: These quotes underscore the importance of ethical decision-making and moral courage in navigating complex issues, highlighting the need for integrity and social responsibility in advertising practices.

Step 6: Analyze Case Studies

Examine real-world examples of prescription drug advertising campaigns on social media, discussing the potential benefits and risks, regulatory compliance, and ethical considerations involved.

“A case study is a story with a message.” - Joseph Badaracco

“The world is a book and those who do not travel read only one page.” - Augustine of Hippo

Reason for quotes: These quotes emphasize the value of case studies as powerful teaching tools for understanding complex issues, encouraging students to explore diverse perspectives and think critically about the implications of their decisions.

Step 7: Engage in Reflective Practice

Encourage students to reflect on their own beliefs, values, biases, and ethical principles in the context of prescription drug advertising, fostering self-awareness and personal growth.

“Knowing yourself is the beginning of all wisdom.” - Aristotle

“An unexamined life is not worth living.” - Socrates

Reason for quotes: These quotes emphasize the importance of self-reflection and introspection in developing personal integrity and ethical awareness, highlighting the value of critical thinking in shaping one’s ethical decision-making processes.

Step 8: Invite Guest Speakers

Bring in industry experts, lawyers, regulators, and healthcare professionals to share their insights and experience with prescription drug advertising, providing students with diverse perspectives and valuable insights.

“Tell me and I’ll forget; show me and I may remember; involve me and I’ll understand.” - Chinese proverb

“In learning you will teach, and in teaching you will learn.” - Phil Collins

Reason for quotes: These quotes emphasize the reciprocal nature of teaching and learning, highlighting the value of experiential knowledge and active engagement in the learning process, as well as the importance of sharing expertise and learning from others.

Step 9: Encourage Critical Analysis

Challenge students to critically evaluate the persuasive tactics,

messaging strategies, and potential impacts of direct-to-consumer advertising of prescription drugs on social media, considering the interests of various stakeholders.

“Critical thinking is thinking about your thinking while you’re thinking in order to make your thinking better.” - Richard W. Paul

“The mind is not a vessel to be filled but a fire to be kindled.” - Plutarch

Reason for quotes: These quotes underscore the value of critical thinking as an active and ongoing process of inquiry, reflection, and refinement, highlighting the transformative power of intellectual engagement and self-directed learning.

Step 10: Assess Student Learning

Evaluate student understanding and application of critical thinking skills in analyzing ethical issues related to prescription drug advertising, providing feedback and opportunities for further development.

“The only real mistake is the one from which we learn nothing.” - Henry Ford

“Success is not the key to happiness. Happiness is the key to success.” - Albert Schweitzer

Reason for quotes: These quotes highlight the importance of learning from mistakes, seeking continuous improvement, and finding fulfillment in the process of growth and development, emphasizing the intrinsic value of education and personal growth in achieving success.

Discussion and Conclusions

Education enables people to make educated choices regarding their healthcare, including the use of prescription medicines for weight reduction. Consumers may have meaningful talks with healthcare professionals and make decisions that line with their values and beliefs by comprehending the risks and benefits of these drugs. Individuals with critical thinking abilities might question the intentions of direct-to-consumer advertising and explore other methods for controlling weight and general health.

Education and critical thinking are essential in dealing with the ethical dilemmas associated with direct-to-consumer promotion of prescription medications, especially those concerning weight reduction. Consumers without a strong educational base may be susceptible to deceptive advertising strategies and unfounded claims. Critical thinking may play a role in ameliorating some of these ethical issues, as those who learn to think critically can more straightforwardly assess the possible advantages and disadvantages of these medications. A knowledgeable and analytical person is better prepared to handle the intricate ethical issues in pharmaceutical advertising and safeguard their health and well-being.

Developing a tailored curriculum on critical thinking focused on marketing pharmaceuticals to customers would provide several advantages for everyone participating. The training would increase the consumer’s ability to critically evaluate and analyze medication marketing, enabling them to make well-informed choices about their healthcare. The outcome would be a more knowledgeable and well-informed society, less vulnerable to deceptive or manipulative advertising tactics.

In turn, a tailored critical thinking training in advertising would enhance the credibility and trustworthiness of the pharma sector. Enhancing critical thinking about advertising may ultimately decrease public cynicism towards the pharmaceutical sector. The happy outcome would be that pharmaceutical firms may

well enhance customer interactions and boost long-term sales by maintaining clear, accurate, and honest advertising.

Finally, a tailored course on critical thinking in selling pharmaceuticals to customers has wide-reaching advantages which extend beyond the individual consumer and the drug business, eventually benefiting society as a whole. Encouraging critical thinking empowers consumers to make educated decisions regarding their health, resulting in improved health outcomes and perhaps reduced expenses of healthcare. Or, as one might hope, a healthier country, perhaps a healthier world.

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