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Behavioral Economic Insights for Pediatric Obesity:

Suggestions for Translating the Guidelines for Our Patients

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Clinical guidelines recommend that physicians counsel patients about a host of obesity-related health behaviors, including providing guidance about physical activity and nutrition to prevent and treat obesity. Despite considerable time and effort spent encouraging healthy eating and more exercise, substantial improvements in these behaviors or obesity outcomes have not been realized. Why? Because we are not translating evidence-based obesity-related guidelines into behaviorally sound recommendations for patients.

Various behavioral models can explain how children and families make daily obesity-related decisions. Traditional standard economic theories assume rational, utilitymaximizing decisions. Clinically, we frequently make recommendations that rely on patients acting rationally to improve their short-term and long-term health. However, we know that patients do not make rational decisions despite their best intentions.[1] Behavioral economics expands on standard economics, accounting for unconscious biases and heuristics (ie, mental shortcuts) that influence people's choices. The powerful market forces contributing to the obesity epidemic have leveraged behavioral economic principles for decades, drawing on these biases and mental shortcuts to make buying candy or binge-watching another TV episode seem like the right choice. The efficacy imbalance of obesitypromoting marketing forces vs the rational approach to advising patients on obesity-related behaviors hinders our pediatric obesity efforts.

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Strategies to more effectively translate obesity-related guidelines for our patients are urgently needed as emerging evidence demonstrates that obesity-related health risks are reversible the earlier children adopt healthier habits.[2] Behavioral economics provides a framework for how we can increase our impact with small changes in how we counsel patients.[3] Here, we demonstrate how selected salient behavioral economic principles can be applied to better translate evidence-based guidelines into patient recommendations on diet and exercise (Table).

Emphasize Immediate Benefits

Childhood obesity guidelines recommend yearly anticipatory guidance on age-appropriate nutrition and physical activity.[4] Clinicians often discuss these behaviors in the context of preventing future disease, such as, “It is important to be active to prevent obesity and diabetes.” Present bias is a behavioral economics principle in which individuals weigh immediate payoffs more heavily than future ones when considering trade-offs between 2 choices. For example, the instant gratification of sedentary activities, like playing a video game, often outweighs the longer-term benefits of exercise, such as preventing diabetes. People’s present bias may reduce the effect of nutrition and exercise counseling if we focus on longer-term disease prevention.

Clinicians can use present bias to their advantage when providing anticipatory guidance by highlighting short-term over long-term benefits or risks, such as promoting physical activity to keep up with friends when playing, improve school performance, and sleep better. Clinicians can also educate parents about the importance of emphasizing immediate benefits to motivate daily healthy behaviors at school and at home.

Give Stepwise Goals

The *Physical Activity Guidelines for Americans*[5] recommend that children and adolescents aged 6 to 17 years engage in 60 minutes of daily physical activity, a goal that many clinicians reference during well-child visits. However, a child getting minimal physical activity who is asked to be active for 1 hour each day may feel demotivated, the goal so ambitious that it feels unattainable. The behavioral economics principle of goal gradients highlights that people become more motivated as they move closer to achieving a goal and less motivated when farther from that goal.

If clinicians set graded physical activity goals for patients, their patients will be more likely to succeed.[6] For example, a goal to increase active time by 10 minutes over the prior week is a more specific and stepwise goal than asking a sedentary child to reach the public health guideline of 60 minutes per day. To amplify the effect, rewards can be linked to these smaller, more achievable goals as progress is made toward loftier goals. Physical activity trackers make setting and tracking graded goals more feasible.

Keep Nutrition Information Simple

A wide array of detailed dietary guidelines exist,[7] ranging from limiting sugar-sweetened beverage consumption to eating at least 5 fruits and vegetables daily or a diet with balanced

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macronutrients.[4] Families and children, especially those with limited nutrition knowledge or financial resources, may find these recommendations overly complicated and difficult to adopt. Being overwhelmed with choices, or choice overload, has been described in behavioral economics, sometimes leading to people avoiding making any choice at all or relying on rules of thumb to make decisions.

Clinicians can reframe their delivery of nutrition guidelines to avoid overloading their patients with too much information and choice. The US MyPlate Food Guide (https://www.choosemyplate.gov/) leverages behavioral economic principles to simplify cognitively complex nutrition decisions with simple visual cues, such as to make half the plate fruits and vegetables. Similarly, clinicians can educate parents about how to simplify food choices for their children; for example, parents could be counseled to present vegetables first at mealtime and place unhealthy snacks in opaque jars out of children's eyesight.

Conclusions

Behavioral economics not only helps us understand why preventing and treating childhood obesity is so difficult but also informs opportunities to maximize the impact of our counseling on healthy eating and exercise during time-limited clinic visits. Here, we provide examples of concrete strategies for translating evidence-based guidelines into clinical practice using a behavioral economics framework. These are suggestions that clinicians can add to their pediatric obesity toolkits, ranging from relatively low-maintenance, lowcost changes in how choices are presented (eg, counseling parents to serve vegetables first at dinner) to the use of technology to individualize and reward activity and nutrition goals (eg, using a fitness tracker to set weekly stepwise goals).

The behavioral economic principles presented here are a select sample, drawing mostly on evidence in adults. Future areas for exploration include the behavioral economic principles of loss aversion, defaults, and social norms as well as evaluating the application of behavioral economic principles in pediatric populations.[1,3,6] Given the strong marketing forces promoting obesogenic behaviors among youth that already leverage behavioral economic principles, the application of these same behavioral principles in our clinical practices will better balance the playing field in our quest to prevent and treat childhood obesity.

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Table.

Strategies to Leverage Behavioral Economic Phenomena for Translating Pediatric Obesity Guidelines into Clinical Practice

Guideline	Typical Clinical Translation	Behavioral Economic Principle	Application	Example
Provide yearly anticipatory guidance for nutrition and physicalactivity	“Eat healthy and be active to prevent obesity and diabetes”	Present bias: immediate costs and benefits are weighted more heavilyrelative to future ones	Highlight short-term benefits of exercise and healthy eating	“Eating healthyand being active will help you keep up with your friends on the soccer field”
Children should engage in ≥60 min of physical activity each day	“One hour of physical activity per day is a good target”	Goal gradients: people are more motivated when they are closer to a goal	Create stepwise, individualized goals for patients	“Try to increase your activity goals by 10 minutes this week”
Children should eat vegetables, fruits, and whole grains; limit juice intake; and avoid saturated fat	“Eat 5 fruits and vegetables per day and avoid sugary drinks”	Choice overload: individualsavoid choices if presented too many options	Suggest serving healthy food options first	“Fill up half of your plate with fruits or vegetables”

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