Craig A. Johnston, PhD, Elizabeth Vaughan, DO, MPH, RD,
and Jennette P. Moreno, PhD

The Difficulty of Prevention: A Behavioral Perspective

Abstract: *Behavioral medicine provides insight in to the problem of injury prevention. Society often views unintentional injuries as only an accident when in reality many accident-related injuries are preventable. However, barriers to behavioral change in injury prevention exist for both patients (eg, inconvenience, perceived risk-benefit ratio) and health care providers (eg, feeling of badgering nonadherent patients, patient misinformation). To overcome barriers, the article discusses strategies for health care providers to address injury prevention such as choosing active over passive strategies, informing patients of predictable injury-prone circumstances, and individualizing patient risks.*

Keywords: injury prevention; barriers; adherence

The most significant issue that faces practitioners promoting lifestyle change is adherence. Although there is a clear need to continue to discover better ways to treat and prevent illness, we have good evidence in most areas of lifestyle medicine for efficacious programs or techniques. The question is typically not how to best intervene but what intervention the patient will most likely follow for the greatest amount of time. Lifestyle modification often rests on

patient passive behaviors or qualities such as willpower, discipline, or education level.¹ As discussed by Teitge and Francescutti² in this issue, active injury prevention requires “repeated user participation,” which can also be framed as adherence. Although passive injury prevention techniques have a greater potential on a population level, health care providers (HCPs) are most likely to be involved with active strategies. One way to better understand how to promote adherence is to, first,

living conditions are all issues that create barriers to adherence.³ Another significant issue faced by patients is weighing risks against inconvenience. For example, one of the primary reasons smoke alarms are disabled is that the inconvenience associated with malfunctioning alarms outweighs health and safety.^{10,11} In terms of childhood injury prevention, mothers may be less likely to ask about injury prevention or take an unintentionally injured child to receive care because these actions may

The question is typically not how to best intervene but what intervention the patient will most likely follow for the greatest amount of time.

understand the barriers present so that they can be addressed. Multiple barriers for injury prevention have been discussed in the literature³⁻⁵ and are found for both patients⁶⁻¹⁰ and HCPs.^{5,11}

Barriers for Patients

Active engagement of injury prevention for patients can be affected by multiple factors. Limited resources, misunderstanding or misinformation, and

lead to accusations of abuse or neglect.^{6,7,9,12,13} Perhaps one of the most significant barriers for patients is the concept that “accidents just happen.”⁶ As discussed in this issue,² many injuries result from predictable events. Having patients shift from perceiving injuries as random occurrences to something they have control over will help enhance self-efficacy and will increase the likelihood that they engage in behaviors consistent with prevention.

DOI: 10.1177/1559827615609532. Manuscript received September 9, 2015; accepted September 11, 2015. From the Department of Health and Human Performance, University of Houston, Houston, Texas (CAJ); Department of Medicine (EV) and USDA/ARS Children's Nutrition Research Center, Department of Pediatrics-Nutrition (JPM), Baylor College of Medicine, Houston, Texas. Address correspondence to: Craig A. Johnston, PhD, Department of Health and Human Performance, University of Houston, Houston, TX 77030; e-mail: cajohn25@central.uh.edu.

For reprints and permissions queries, please visit SAGE's Web site at <http://www.sagepub.com/journalsPermissions.nav>.

Copyright © 2015 The Author(s)

Barriers for HCPs

Barriers have also been identified for HCPs. Using the case of childhood injury prevention, childhood injuries are highly predictable.¹⁴ However, parents are less likely to believe that injuries are predictable compared with care HCPs.^{6,15} Interactions in which a practitioner is trying to convince a patient have multiple barriers. One of the main barriers to a HCP discussing injury prevention is if this topic is their primary role or an ancillary one.⁵ Additionally, parents can become defensive when they are told to shift priorities. In this example, a parent may become easily frustrated that information on injury prevention is placed on a similar level to other health issues.¹⁶ Finally, multiple mixed messages around injury prevention are present, and this conflicting evidence base can make practitioners less likely to discuss the issue.¹⁷ Although these barriers can significantly affect HCPs, recent advances can mitigate these issues. Specifically, mobile technologies, Internet resources, and multicomponent interventions have and will likely continue to support efforts to encourage injury prevention.¹⁶⁻¹⁸

Behavioral Considerations

Behavioral theory provides additional insight into several issues that may affect the likelihood of both the practitioner and patients adhering to recommendations regarding prevention. Prevention by definition is concerned with keeping something from happening. The closest behavioral concept associated with this for the patient is avoidance conditioning.¹⁹ In avoidance conditioning, a signal is paired with an aversive stimulus, typically a shock. Animals learn to pay attention to the signals in order to avoid the aversive stimulus. Classically, the signals presented to animals were tones or lights. Humans also seek to avoid aversive stimuli, and we pay close attention to the things that let us know

that something bad is likely to happen. However, in prevention, the things we are trying to avoid typically have not happened. For many, the event they may try to avoid for a limited amount of time is a low level of fear when thinking of a future possibility such as injury. Because the aversive stimulus is not very strong, whatever “signals” (eg, warning signs, talks, commercials) that are put in place are not likely to elicit the preventive response that is desired. Said simply, patients are less likely to adhere to recommendations on a regular basis for something that is viewed to be unlikely or in the remote future.

HCPs may also be less likely to promote preventive strategies from a behavioral perspective. When working with patients, HCPs experience the greatest sense of accomplishment when an individual follows through with the lifestyle plan that has been determined, and this is accompanied by the desired outcome. Few (if any) HCPs feel excited when they repeat the same materials over again believing that this time will not likely make a difference. In these cases, adherence and “success” are reinforcing for the HCP as well as the patient, but there are few points of reinforcement when there is patient nonadherence. In fact, HCPs may feel like continued “badgering” is a source of annoyance to the patient creating an overall negative interaction.²⁰ Negative thoughts and feelings make it less likely that the practitioner will engage in these behaviors in the future. Additionally, in a very time-limited environment, HCPs are more likely to address the most salient (proximal) issues in part because it is these issues that the patient is most concerned.

The Importance of HCP Recommendations

In lifestyle medicine, a point of emphasis has been placed on ways to promote adherence by improving communication with patients. It is important to remember that patients trust and pay attention to what HCPs have to say. Results from Gallup Polls for the last

30 years have shown that patients trust their physician,²¹ and there does not appear to be a decline in this trust over time. Additionally, nurses were ranked the highest of all professions in terms of ethical standards.²¹ Considerable research has been conducted on how to strengthen the information that is provided by HCPs as they are viewed as already having a significant impact toward promoting health behavior change.²²⁻²⁵ Basically, people listen to their doctors and nurses. This makes it imperative that HCPs address a major public health problem, injury, in a meaningful way. Recommendations for what HCPs can do in terms of injury prevention have been provided.² Additional points to consider when giving preventive information include the following:

1. Raise awareness to the predictable events in unintentional injury. For example, focusing on the identifiable causes of unintentional injury can help patients assess their current practices and adjust accordingly. In the case of child injury prevention, a clear statement about the need for consistent parental supervision is important, as lack of parental supervision is an identifiable environment in which unintentional injury occurs.
2. Use action-based messaging that is linked to health and developmental information. Although it is important to teach patients about recommendations toward preventing injury, HCPs should attend to specific actions that can be changed, and special consideration should be given to the patient's stage of development. For example, instead of simply stating that seat belts should be worn to a teenager (ie, a stage of development that is at increased risk for car-related injuries), allow the patient to state the action he or she plans to take to protect himself/herself in the future.
3. Avoid “badgering” nonadherent patients. The HCP should ask patients to provide 1 to 2 barriers associated with making changes previously

discussed in terms of prevention. Once the barriers are identified, problem solve with the patient to determine a plan to address the barriers.

Conclusion

Medical professionals are uniquely positioned to influence the behaviors and decisions of a large segment of the population. Although multiple factors compete for HCPs' time spent in direct contact with patients,^{26,27} it remains important that practitioners discuss issues such as injury prevention regularly. Finding innovative ways to incorporate these messages during appointments especially for those at higher risk due to either lifestyle or stage in life (eg, childhood, adolescence, older adulthood) is important. Keeping awareness high, attending to predictable circumstances that can lead to injury, and identifying risk factors for patients can significantly improve preventive behaviors.

Authors' Note

This work is a publication of the Department of Health and Human Performance, University of Houston (Houston, TX).

AJLM

References

- Delamater AM. Improving patient adherence. *Clin Diabetes*. 2006;24:71-77.
- Teitge BD, Francescutti LH. Time for lifestyle medicine to take injury prevention seriously [published online February 20, 2015]. *Am J Lifestyle Med*. doi:10.1177/1559827615571898.
- Smithson J, Garside R, Pearson M. Barriers to, and facilitators of, the prevention of unintentional injury in children in the home: a systematic review and synthesis of qualitative research. *Inj Prev*. 2011;17:119-126.
- Ablewhite J, Peel I, McDaid L, et al. Parental perceptions of barriers and facilitators to preventing child unintentional injuries within the home: a qualitative study. *BMC Public Health*. 2015;15:280.
- Mack DE, Aymar M, Cosby J, Wilson PM, Bradley C, Walters Gray C. Understanding barriers for communicating injury prevention messages and strategies moving forward: perspectives from community stakeholders [published online August 26, 2015]. *Public Health Nurs*. doi:10.1111/phn.12224.
- Bennett Murphy LM. Adolescent mothers' beliefs about parenting and injury prevention: results of a focus group. *J Pediatr Health Care*. 2001;15:194-199.
- Brannen JE. Accidental poisoning of children: barriers to resource in a black, low-income community. *Public Health Nurs*. 1992;9:81-86.
- Gibbs L, Waters E, Sherrard J, et al. Understanding parental motivators and barriers to uptake of child poison safety strategies: a qualitative study. *Inj Prev*. 2005;11:373-377.
- Hendrickson SG. Maternal worries, home safety behaviors, and perceived difficulties. *J Nurs Scholarsh*. 2008;40:137-143.
- Roberts H, Curtis K, Liabo K, Rowland D, DiGuseppi C, Roberts I. Putting public health evidence into practice: increasing the prevalence of working smoke alarms in disadvantaged inner city housing. *J Epidemiol Community Health*. 2004;58:280-285.
- Brussoni M, Towner E, Hayes M. Evidence into practice: combining the art and science of injury prevention. *Inj Prev*. 2006;12:373-377.
- Mull D, Agraan P, Winn D, Anderson CL. Injury in children of low-income Mexican, Mexican American and non-Hispanic white mothers in the USA: a focused ethnography. *Soc Sci Med*. 2001;52:1081-1091.
- Olsen L, Bottorff J, Raina P, Frankish CJ. An ethnography of low-income mothers' safeguarding efforts. *J Safety Res*. 2008;39:609-616.
- Liller K. The importance of integrating approaches in child abuse/neglect and unintentional injury prevention efforts: implications for health educators. *Int Electron J Health Educ*. 2001;4:283-289.
- Vincenten JA, Sector MJ, Rogmans W, Bouter L. Parents' perception, attitudes and behaviours towards child safety: a study in 14 European countries. *Int J Inj Contr Saf Promot*. 2005;12:183-189.
- Devolin M, Phelps D, Duhaney T, et al. Information and support needs among parents of young children in a region of Canada: a cross-sectional survey. *Public Health Nurs*. 2013;30:193-201.
- Olsen L, Kruse S, Brussoni M. Unheard voices: a qualitative exploration of fathers' access of child safety information. *J Community Health*. 2013;38:187-194.
- Kendrick D, Mulvaney CA, Ye L, Stevens T, Mytton JA, Stewart-Brown S. Parenting interventions for the prevention of unintentional injuries in childhood. *Cochrane Database Syst Rev*. 2013;(3):CD006020.
- Mowrer O, Lamoureux R. Fear as an intervening variable in avoidance conditioning. *J Comp Psychol*. 1946;36:29-50.
- Melnikow J, Kiefe C. Patient compliance and medical research: issues in methodology. *J Gen Intern Med*. 1994;9:96-105.
- Gallup Poll. Poll questions. <http://www.gallup.com/poll/1654/Honesty-Ethics-Professions.aspx>. December 8-11, 2014. Accessed September 1, 2015.
- Mullin D, Forsberg L, Savageau J, Saver B. Challenges in developing primary care physicians' motivational interviewing skills [published online July 27, 2015]. *Fam Syst Health*. doi:10.1037/fsh0000145.
- Resnicow K, McMaster F, Bocian A. Motivational interviewing and dietary counseling for obesity in primary care: an RCT. *Pediatrics*. 2015;135:649-657.
- Williams A, Wright K. Engaging families through motivational interviewing. *Pediatr Clin North Am*. 2014;61:907-921.
- Mocciaro F, Di Mitri R, Russo G, Leone S, Quercia V. Motivational interviewing in inflammatory bowel disease patients: a useful tool for outpatient counseling. *Dig Liver Dis*. 2014;46:893-897.
- Mechanic D. Physician discontent: challenges and opportunities. *JAMA*. 2003;290:941-946.
- Fuchtbauer L, Norgaard B, Mogensen C. Emergency department physicians spend only 25% of their working time on direct patient care. *Dan Med J*. 2013;60:A4558.