Changing Health Behavior in Youth: Plus 40 Years

Robert F. Valois, Keith J. Zullig, Michael Young, and Sandra K. Kammermann

Everyone who lived through the 1960s sees it through his or her own distinct prism. The conventional view is that it was a time mainly of flower children and angry protesters, of black power and militant feminism.[1] The 1960s were a time when the nerve endings of the body politic were constantly stimulated with new sensations, but it was also a time of mindless fantasy, groundless arrogance, spiritual awareness, callow youth and misguided elders.[1]

The year 1969, witnessed the first men on the moon (Neil Armstrong and Buzz Aldrin via Apollo 11), initiation of U.S. troop withdrawal from Vietnam, the Woodstock Music and Art Festival in upstate New York on Max Yasgur's dairy farm and invention of the microprocessor, beginning the computer revolution. In 1969, Zager and Evans released their hit song *In the Year 2525*. This year was also when the U.S. government banned the use of cyclamate artificial sweeteners, the "Chicago 8" was indicted in the aftermath of the Chicago Democratic Convention and Wendy's Hamburgers opened. In addition, the U.S. Army investigated Lt. William Calley for alleged massacre of civilians at the village of My Lai in South Viet Nam, the battery-powered smoke detector was invented, major league baseball player Curt Flood sued baseball challenging the "reserve clause" that restricted a player's choice about for whom he played, and Tommy Hilfiger began selling flowered shirts and bell bottom pants at the People's Place in Elmira, New York.

For those in health education, 1969 also marked the debut of *School Health Review*, the forerunner to the current *American Journal of Health Education*. The inaugural issue of *School Health Review*, in September of 1969 included the article, "Changing Health Behavior in Youth," by Dr. Godfrey M. Hochbaum.[2]

The 1969 Hochbaum[2] article, reprinted in this issue of the *Journal*, is segmented in three sections. The first section is an introduction, the second is entitled "A Common Denominator–The Effects on Health," and the last section is "Difficulty of Application to Everyday Life." In the introduction, the author suggested that before considering the need for changing health behavior, it may be advantageous to contemplate how we learn about health behavior. This may help us understand why effecting change can be difficult and how health educators might best succeed in bringing about positive health behavior.

The introduction follows a developmental theme. As infants and young children, we rely on our parents to provide for our health and safety. As we become older children and adolescents, we begin to take more personal responsibility for our own health and well being. Hochbaum uses hygiene, safety and healthy habits as examples of areas in which there is a shift in responsibility from parent to child. He identifies concepts of "rewards and punishments" for health behavior, "desirable and undesirable behavior," the development of "habits" and "behavior patterns," and the impact of knowledge concerning the influence of behavior on future health status. The influence of parents and other adults on personal health behavior is also noted, along with personal experiences with illness, influence of medical personnel and peers. Finally, television is identified as a factor in influencing desirable/undesirable health behavior.

In the next section of the introduction he discusses ideas, attitudes and beliefs about health and illness, and notes that some health behaviors/habits are well established in early childhood, before young people understand the impact of those behaviors on present or future health. When children go to school they are exposed to more systematic and reliable health information. They are also gaining the ability to judge and make decisions about some of their own health behaviors.

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Hochbaum also suggests that the problem in helping young people establish patterns of healthy behavior is that often they cannot distinguish between desirable/undesirable behaviors or health promoting/health threatening habits. Moreover, a young person rarely, if ever, is aware of the fact of feeling and acting in an astoundingly inconsistent, often paradoxical manner. The author then notes that adults are not much better at consistently engaging in positive health behavior.

Hochbaum suggests that whereas health educators give young people additional health knowledge; they may fail to help them make sound and consistent choices in health behavior by not focusing on the application of health knowledge. Hochbaum also notes two important issues: (1) possible problems and difficulties in applying health knowledge to everyday situations and (2) what he refers to as the "guiding principle" underlying *all* desirable health behavior.

In the second section of his paper, Hochbaum uses an athlete as example of his "guiding principle" underlying all desirable health behavior. This principle involves athletes following all of the rules and behaviors for optimal training and performance for the game or the athletic contest. In turn, this leads to an integrated and consistent behavior pattern. Hochbaum notes that we do not approach health behavior this way and tend to use each injunction as a separate health problem (the disease of the month approach). In turn, students in school often find health education meaningless and abstract. Hochbaum suggests that health educators must be enthusiastic and have the ability to inspire their students. He also indicates that youth need to be actively involved in the health education process.

In the third section of the paper, Hochbaum expresses concern that too often health educators do not try to learn what problems or difficulties young people may experience in the application health knowledge. Neither do they seem to help young people deal with these problems.

In the summary section he revisits the two issues that he suggests do not receive enough attention vis-à-vis health education. The first is the need to relinquish the emphasis on providing knowledge for knowledge sake, in the hope that knowledge alone will accomplish our health education goals. The second issue is the need to pay more attention to problems applying health knowledge to various conditions and in different situations.

The concerns Hochbaum expresses and the concepts he highlights remain relevant 40 years later. Developing health promotion and education interventions based on the human development process can be time and labor intensive. Today, Hochbaum would be proud of the Association for Supervision and Curriculum Development (ASCD) Whole Child Initiative[3] and ASCD's Healthy School Communities Initiative[4,5] based on Bronfenbrenner's Ecological Model of Human Development[6] and other contemporary theories and models for health promotion and education. In regard to the health knowledge, attitude and behavior triad, Iverson and Protnoy[7] would respond to Hochbaum's concern by noting:

> The assumed role of health education programs in behavior change is to directly increase knowledge and indirectly initiate attitude and behavior changes. Knowledge then functions as a direct and indirect stimulus for change in attitudes and a direct change agent for behavior. Knowledge will function as a direct change agent for attitudes far more frequently than it will for behaviors. Attitudes are direct and indirect change agents for behavior. Once a behavior is altered there is, in many instances, a direct feedback mechanism which alters the appropriate attitudes in such a manner as to reinforce the new behavior.

Green et al,[8] would also contend that the association between knowledge and health is more than philosophic, suggesting that knowledge helps to increase decision-making attitudes and skills that may contribute to positive health behavior.

Hochbaum might be encouraged by a theory-based quasi-experimental study[9] that used the Bloom[10] and Krathwohl[11] taxonomies of education objectives and found a linear relationship between performance at the different levels of affective and cognitive taxonomies by students in the experimental group.

Hochbaum commented that school attendance resulted in young people receiving more systematic and reliable health information. He would be pleased with the situation concerning knowledge related to nutritional behavior, physical activity and substance abuse, vis-à-vis school adoption of the successful CATCH[12,13] program and curriculum. However, he might be disappointed by the limitation of sex education information for our youth,[14] including the questionable knowledge base and lack of demonstrated effectiveness of a number of abstinence-only sex education curriculua.[15,16]

A "back to the future" moment might find Hochbaum somewhat overwhelmed with the quantity (and to some extent the quality) of health-related information on the Internet. His concern for misinformation is still relevant for a number of websites.

The Behavioral Risk Factor Surveillance System[17] would validate Hochbaum's four-decade-old comment on the health behaviors of the adult population. As then, behaviors of today's adults are not much better than the behaviors of youth. For the prevalence of adolescent health risk behaviors, today Hochbaum could track state and national trends via the Youth Risk Behavior Surveillance System,[18,19] consider youth developmental assets[20,21] and a growing body of literature in quality of life/life satisfaction among youth.[22-24] He would be proud of the progress in promoting comprehensive school health education[25] and coordinated school health efforts.[26] Our movement away from the bones and muscles curricula, pervasive in the 1960s and 1970s, and moving to more behavior and skills-based curricula would help soothe the concern for separate health education topics. They would also demonstrate that youth are actively engaged in modern health education within a meaningful and applied human effectiveness process.[27]

From a research and theory perspective, Hochbaum, a co-creator of the Health Belief Model,[28,29] would be pleased to see the breadth and depth of research using this original model of individual-level health behavior[30] as well as the use of an expanded model[31] for preventive health care practice and research. For the design, implementation, and evaluation of comprehensive school health programs, Hochbaum would be pleased with the use of Social Cognitive Theory[32,33] and its inclusion of both individual and environmental interventions and its addressing of the use of social groups and the dynamic interaction of the individual within a social context.[34] Another "back to the future moment" might find him somewhat amazed at the child/adolescent health promotion and education interventions involving culturally competent mass media,[35-38] and the technology of cell phones[39] and social networking.[40]

Perhaps overarching our advancements in adolescent health promotion and education since 1969 is the current research on adolescent brain development.[41] Longitudinal neuro-imaging studies demonstrate that the adolescent brain continues to mature well into the 20s. This discovery has prompted intense interest in linking neuro-maturation to maturity of judgment.[42] We are reminded that adolescence is a developmental period characterized by sub-optimal decisions and actions that are associated with an increased incidence of unintentional injuries,[43] violence,[44] substance abuse[45] and sexual risk behaviors[46] associated with unintended pregnancy and sexually transmitted diseases.

Brain researchers suggest that there is a heightened responsiveness to incentives and socio-emotional contexts during adolescence when impulse control is still relatively immature.[47] This developmental pattern may be exacerbated in those adolescents prone to emotional reactivity, increasing the likelihood of poor outcomes.[47]

In view of our accomplishments in adolescent health promotion,[48] health education[49] and integrated approaches to understanding and[50] reducing adolescent risk,[51] changing health behavior in youth is still a formidable challenge vis-à-vis the realities of the adolescent developmental period[52] and recent findings on adolescent brain research.[41,42,47]

We have made significant inroads since 1969 in reducing smoking and other tobacco use behavior.[53] However, we are currently struggling with an epidemic of adolescent overweight and obesity.[54] Type II diabetes among adolescents[55] is a significant national problem, along with a decrease in physical activity,[56] especially among adolescent females. We have made progress with decreases in driving while intoxicated (DUI)[57] and increased seatbelt use,[58] but now struggle with adolescents motor vehicle driving while texting[59] and talking on cell phones.[60] Violence[61] continues to be a significant public health problem and adolescent alcohol[62] and other drug use[63] alone, and in combination with other risk behaviors, lead to premature morbidity and mortality. The teen pregnancy rate has declined steadily over the past decade and just recently began increasing.[64] We have made progress in developing the concept of coordinated school health[26] and school improvement through health promotion,[5] but few schools or school districts have sustained large-scale efforts.[65] Despite mandates and proven effective programs, many schools fail to require courses in health education[65,66] or physical education.[66] Most policy makers recognize that prevention is important; however, the vast majority of health care funding goes to tertiary care.[67]

Dr. Godfrey M. Hochbaum's concerns regarding changing health behavior in youth are as relevant today as they were 40 years ago.[2] From a variety of adolescent health perspectives, one can argue that we have taken two steps forward, and one step back.

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