Jefferson.

Thomas Jefferson University
Jefferson Digital Commons

Department of Pediatrics Faculty Papers

Department of Pediatrics

4-1-2011

The challenge of communicating cardiovascular risk information to our patients.

Samuel S Gidding
Thomas Jefferson University, sgidding@nemours.org

Let us know how access to this document benefits you

Follow this and additional works at: http://jdc.jefferson.edu/pedsfp

Part of the Bioethics and Medical Ethics Commons, and the Cardiology Commons

Recommended Citation

Gidding, Samuel S, "The challenge of communicating cardiovascular risk information to our patients." (2011). *Department of Pediatrics Faculty Papers.* Paper 37.
http://jdc.jefferson.edu/pedsfp/37

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's Academic & Instructional Support & Resources Department (AISR). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Department of Pediatrics Faculty Papers by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

As submitted to:

Journal of Pediatrics

And later published as:

The Challenge of Communicating Cardiovascular Risk Information to Our Patients

Volume 158, Issue 4, April 2011, Pages 527-528

DOI: 10.1016/j.jpeds.2010.11.031

Samuel S. Gidding, MD

Cardiology Division Head, Nemours Cardiac Center, A. I. DuPont Hospital for Children, Wilmington, DE

Professor of Pediatrics, Thomas Jefferson University, Philadelphia, PA

Contact Information:

Nemours Cardiac Center

1600 Rockland Road

Wilmington, DE, 19803

302 651 6639 (fax, 5345)

sgidding@nemours.org

Each of the major cardiovascular risk factors presents unique challenges to the clinician caring for children. Dyslipidemia and hypertension are silent and require measurement; the challenge is first risk classification and then communicating strategies for treatment, with attendant cost, in the absence of perceptible disease morbidity. Obesity and physical inactivity, while generally obvious to the patient, require change in lifestyle for successful management; the challenge is to convince the patient to make that change. Diabetes mellitus is a significant disease requiring complex management strategies for the patient to execute; the challenge is to add cardiovascular risk reduction strategies to the difficulties of regular diabetes treatment. Tobacco use is an addiction; the challenge is the lack of useful prevention or treatment strategies available in the pediatric office setting.

There are 2 additional risk factors, not often discussed, but at least as important if not more important than dyslipidemia, hypertension, obesity, physical inactivity, diabetes mellitus, and tobacco use in the prediction of future cardiovascular disease. These are age and socioeconomic status/education. The incidence of cardiovascular events is tightly linked to age with a geometric increase from decade to decade of life until the eight decade of life. For the pediatrician, the challenge is recognizing those children whose risk level suggests likelihood of a premature event, potentially in young adulthood or middle age. A second challenge is communicating health information to children and adolescents, which is usually presented to adults, and often contrary to current lifestyle preferences. Socioeconomic status and education level are not strictly medical variables but the contribution of these to the prevalence of both risk and subsequent disease is extraordinarily high, perhaps greater than any other single risk factor. (1) (2) The challenge to the clinician is to overcome the economic and communication barriers poverty and lack of education create. Not meeting this last challenge is perhaps one of the great failures of contemporary medicine.

In this issue of the Journal of Pediatrics, (3) (Reynolds et al) provide data that explore the confluence of 4 of these risk factors: diabetes mellitus, tobacco use, age, and education level/socioeconomic status. This confluence is particularly malignant as tobacco use is prothrombotic, impairs endothelial function, and particularly targets small arterial vessels. In the setting of diabetes, all these added pathophysiologic events exacerbate vascular injury. We now know that tobacco use rates in diabetic children essentially mirror those in the general population (perhaps slightly less in those with Type 1 as opposed to Type 2). Those with the least education and lowest socioeconomic status are most likely to use tobacco, as are older adolescents. Tobacco use is also associated with poorer control of diabetes; this could be related to poorer compliance or insulin resistance related to tobacco use.

Two additional associations were uncovered. (3) (Reynolds above) The first is that physical inactivity was associated with tobacco use. Again this is particularly unfortunate as physical activity is critical for improving not only insulin sensitivity, but endothelial function. The second is that triglycerides were higher in the tobacco use group. This could be related to physical inactivity or the weak relationship of tobacco use to insulin resistance.

This paper confirms the historic observation that the medical message to diabetics to not start smoking is often either not delivered or not heard. (4) Readers of this editorial are perhaps in the worst position to come to grips with this problem. As medical professionals, we know that diabetes is a malignant disease and that smoking in the setting of diabetes is foolhardy; we are also middle class or wealthy, highly educated, and have left childhood far behind. We are speaking to children and families without the benefit of our medical knowledge, most often less wealthy, and often of different ethnicity. On our side, we do not feel confident about our ability to influence tobacco use behaviors. Tobacco is the “unnecessary” risk factor; when confronted with a history of tobacco use it is almost impossible not to be disappointed in the patient’s behavior. On the patient’s side is fear concerning the prognosis of

diabetes, possible depression related to the need to manage a chronic disease at a time when peers are in the prime of life, a threat to self esteem in that behavioral restrictions related to disease may adversely impact peer interactions, and concern about the economic impact of diabetes. (5, 6)

How can these barriers be overcome? Two potential improvements can occur outside the office setting. Health care reform, if it improves access to health care and removes financial barriers to medication use, might improve compliance with recommendations. Anti-tobacco advocacy, if reinvigorated, could favorably impact tobacco use rates in the general population, continuing the gains made in the late 1990s and early part of this decade.

In the office setting, recognition of risk factor (poor parental involvement in care, adolescent age, and low socioeconomic status) for noncompliance is key. (5, 6) Getting parents involved in disease management positively impacts diabetes outcomes. (7) Enlarging the care team to include behavioral health professionals and community resources including schools may also be beneficial. Adapting behavioral counseling and motivational interviewing techniques, with a goal of making the patient feel more in control of his/her care and to recognize that personal health behaviors influence outcomes, might allow health care providers to overcome the barriers to effective communication discussed above. (8, 9) Clinical trials are important in validating these techniques. Most important, since physicians and nurses are considered trustworthy social sources of information, the responsibility to deliver an anti-tobacco message cannot be shirked.

The study of (3) (Reynolds et al) emphasizes the need for vigilance in cardiovascular risk assessment of diabetic patients. But it also sends up an alarm signal that a seemingly obvious health behavior message, to not smoke if you already have one major cardiovascular risk factor, is being ignored. Diabetes is a disease where successful self monitoring of treatment leads to improved health outcomes. (10) Empowering patients to manage their disease themselves, and thus improving life

expectancy, that is creating a more positive self image in our patients, and making them partners in care rather than the objects of care, may be the best way to convince patients to never touch a cigarette.

1. Howe LD, Tilling K, Galobardes B, Smith GD, Ness AR, Lawlor DA. Socioeconomic disparities in trajectories of adiposity across childhood. Int J Pediatr Obes 2010.
2. Galobardes B, Smith GD, Lynch JW. Systematic review of the influence of childhood socioeconomic circumstances on risk for cardiovascular disease in adulthood. Ann Epidemiol 2006;16(2):91-104.
3. Reynolds ea.
4. Alfano CM, Zbikowski SM, Robinson LA, Klesges RC, Scarinci IC. Adolescent reports of physician counseling for smoking. Pediatrics 2002;109(3):E47.
5. Jaser SS. Psychological problems in adolescents with diabetes. Adolesc Med State Art Rev 2010;21(1):138-51, x-xi.
6. Kakleas K, Kandyla B, Karayianni C, Karavanaki K. Psychosocial problems in adolescents with type 1 diabetes mellitus. Diabetes Metab 2009;35(5):339-50.
7. Anderson B, Ho J, Brackett J, Finkelstein D, Laffel L. Parental involvement in diabetes management tasks: relationships to blood glucose monitoring adherence and metabolic control in young adolescents with insulin-dependent diabetes mellitus. J Pediatr 1997;130(2):257-65.
8. Channon SJ, Huws-Thomas MV, Rollnick S, Hood K, Cannings-John RL, Rogers C, et al. A multicenter randomized controlled trial of motivational interviewing in teenagers with diabetes. Diabetes Care 2007;30(6):1390-5.
9. Williams GC, Niemiec CP, Patrick H, Ryan RM, Deci EL. The importance of supporting autonomy and perceived competence in facilitating long-term tobacco abstinence. Ann Behav Med 2009;37(3):315-24.
10. Schwartz DD, Cline VD, Hansen JA, Axelrad ME, Anderson BJ. Early risk factors for nonadherence in pediatric type 1 diabetes: a review of the recent literature. Curr Diabetes Rev 2010;6(3):167-83.