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# Healthy coping: issues and implications in diabetes education and care

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## Healthy Coping: Issues and Implications in Diabetes Education and Care

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### Abstract

Psychological, emotional, and social factors not only impact quality of life, but also often play a role in chronic illness outcomes. Diabetes care, in particular, is greatly influenced by psychosocial factors when they hinder a person's ability to manage the disease and achieve metabolic control. Healthy coping, defined as responding to a psychological and physical challenge by recruiting available resources to increase the probability of favorable outcomes in the future, is essential to effective self-management by people with diabetes. In June 2009, the American Association of Diabetes Educators convened a multidisciplinary expert panel to discuss healthy coping in diabetes. The panel included diabetes educators and behavioral science and mental health professionals. Drawing on their knowledge and experiences, as well as information presented at the symposium, the panel probed several aspects of healthy coping including what it entails, common barriers, assessment, population diversity, and clinical applications. A team approach to addressing the patient's coping is critical. Team involvement relieves the diabetes educator of the entire burden of supporting the patient in this regard. The team should be broadly defined and include those who are formally and informally involved. Healthy coping is a complex, qualitative behavior that cannot be easily quantified. Future efforts to address the issue of healthy coping should add to the body of literature regarding diabetes self-management at the individual and population-based levels. (*Population Health Management* 2010;13:227–233)

### Introduction

**P**SYCHOLOGICAL, EMOTIONAL, AND SOCIAL FACTORS not only impact quality of life but also often play a role in chronic illness outcomes. Diabetes care, in particular, is greatly influenced by psychosocial factors when they hinder a person's ability to self-manage the disease and achieve metabolic control. Moreover, the various challenges attendant to diabetes add to the burden of illness and can cause even more

psychological distress. Recognizing that people with diabetes fare better when they adequately deal with the psychosocial issues in their lives, the American Association of Diabetes Educators (AADE) has identified healthy coping as one of the AADE7 Self-Care Behaviors essential for effective diabetes self-management.

In June 2009, the AADE convened a multidisciplinary expert panel to discuss healthy coping in diabetes. The panel included diabetes educators and behavioral science and

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mental health professionals. Drawing on their knowledge and experiences as well as information presented at the symposium, the panel probed several aspects of healthy coping including what it entails, common barriers, assessment, population diversity, and clinical applications. Prior to the symposium, discussion questions were developed by the AADE, with input from the US Department of Health and Human Services Administration on Aging, which spotlighted the importance of considering healthy coping among diverse populations. Following 2 presentations that summarized the literature on healthy coping in diabetes and the specific challenge of depression in diabetes, the panel refined, prioritized, and deliberated on the following questions:

1. What are the dimensions of healthy coping in the context of diabetes self-management education? What behaviors would you expect to see in people with healthy coping skills?
2. What are the common barriers to healthy coping faced by people with diabetes?
3. Do healthy coping techniques differ among diverse populations?
4. What are the current best practices and interventions in screening and evaluation available to the diabetes educator for promoting and teaching healthy coping?
5. What can be done to encourage clinical use of coping assessments and application of the results of assessment to enhance treatment decisions for people living with diabetes? By a variety of practitioners?
6. What is needed to help educators translate depression screening and intervention into everyday practice?
7. How will diabetes educators be trained to incorporate healthy coping skills to patient management?

### Healthy Coping and the AADE7

Healthy coping joins healthy eating, being active, monitoring, taking medication, problem solving, and reducing risks as one of the AADE7 Self-Care Behaviors. Together, these 7 behaviors, which are incorporated into the National Standards for Diabetes Self-Management Education,<sup>1</sup> serve as a framework for patient-centered diabetes management and a view of where that education fits into the diabetes care continuum.<sup>2</sup>

The rationale for including healthy coping in the self-care behaviors construct is described as follows:

"Health status and quality of life are affected by psychological and social factors. Psychological distress directly affects health and indirectly influences a person's motivation to keep their diabetes in control. When motivation is dampened, the commitments required for effective self-care are difficult to maintain. When barriers seem insurmountable, good intentions alone cannot sustain the behavior. Coping becomes difficult and a person's ability to self-manage their diabetes deteriorates."<sup>3</sup>

In discussing healthy coping further, the AADE emphasizes the importance of the diabetes educator's work in identifying an individual's motivation to change behavior, helping set behavioral goals, and guiding the patient through obstacles. Educators can provide support by encouraging disclosure, helping patients learn what they can control, and offering ways to cope with what they cannot control.<sup>3</sup>

As a step in developing the evidence base for the AADE7, a systematic review of the literature has been conducted for each of these self-care behaviors.

### Systematic Review of Healthy Coping: Highlights

A systematic review by Fisher and colleagues<sup>4</sup> assessed the literature for evidence pertaining to healthy coping in diabetes. The review revealed a host of psychosocial factors that can affect metabolic control and quality of life, and identified a number of controlled studies that evaluated diverse interventions to improve quality of life, psychological outcomes, and metabolic control for persons with diabetes.

A key finding of the review indicates that diabetes control, complications, psychosocial factors, and quality of life are interdependent. Quality of life was found to be positively impacted by good metabolic control<sup>5</sup> and negatively affected by diabetes complications.<sup>6</sup> Mixed results were reported regarding the effects of diabetes treatment intensity or specific types of therapy on quality of life.<sup>7-10</sup> Data suggest that individuals differ in their reactions to different types of treatment based on their preferences, attitudes, expectations, and degree of involvement in decision making, underscoring the need for individualized therapy.

Numerous psychosocial factors have been shown to reduce an individual's ability to maintain metabolic control, most likely due to decreased adherence to treatment. These factors include external locus of control, maladaptive coping style, stressful life events, depression, family stress, low financial resources, and low social support.<sup>11-16</sup> In addition to depression, which is common in diabetes, other emotional/psychological issues such as anxiety, social withdrawal, and disordered eating have been linked to diabetes and its treatment.<sup>17-19</sup> Furthermore, diabetes complications pose additional psychological challenges and impact quality of life. One example is male sexual dysfunction, which is estimated to be up to 3 times more prevalent among men with diabetes than those without diabetes.<sup>20,21</sup> Another example is decreased cognitive function, which can result from poor metabolic control, long duration of diabetes, or other complications of diabetes and can further detract from one's ability to manage diabetes and can hamper quality of life.<sup>4</sup>

Several measurement tools are available to assess for psychosocial issues. A useful table describing these instruments appears in a recent guide on healthy coping published by the Diabetes Initiative.<sup>22</sup>

The literature describes various interventions to optimize healthy coping for people with diabetes, but more rigorous studies are needed to evaluate these approaches adequately. Evidence of improved quality of life among persons with diabetes has been reported with the use of self-management education, support groups, problem-solving training, cognitive-behavioral therapy, cognitive-analytic therapy, medication, combined approaches (eg, the Pathways case management program), family therapy, and multisystemic therapy; several of these approaches also may improve metabolic control.<sup>23-34</sup> Many of the interventions are used in combination.

Considering the impact of psychosocial factors on persons with diabetes and the benefits of effective interventions, the authors of the review urged ongoing support for healthy coping research. They also emphasized the need for translational research. Specifically, future studies should evaluate

how best to integrate and disseminate promising approaches for different populations and in different settings, and should determine whether these approaches are effective in real-world situations.

### Diabetes and Depression: Key Research Findings

Depression is a common comorbidity of diabetes, possibly occurring twice as often among individuals who have diabetes versus those who do not.<sup>35</sup> Patients with coexisting depression and diabetes, as compared with diabetes alone, have a higher burden of symptoms and diabetes complications, higher unemployment and overall work disability, poorer glycemic control, higher mortality, and higher health care costs.<sup>36–42</sup> In addition, poorer adherence to medications (oral hypoglycemic, antihypertensive, and lipid-lowering agents) and poorer self-care (ie, more smoking, less exercise, less healthy eating) have been observed in patients with diabetes and major depression versus patients without major depression.<sup>41</sup>

Results from a recent controlled study involving patients with diabetes and depression suggest that improvement in depression results in healthier eating, more exercise, and weight loss.<sup>43</sup> Patients who experienced significant improvement in depressive symptoms at 5-year follow-up had similar improvements in number of days per week of adherence to diet and exercise regimens, whereas those whose depression worsened or remained the same had the fewest days of healthy eating and exercise.

Collaborative care has emerged as a promising intervention to improve primary care and patient outcomes.<sup>44</sup> In this model, the patient chooses treatment in consultation with providers, who may include a primary care physician, depression care manager, and consulting psychiatrist. Katon and colleagues reported on the Pathways Study, a randomized trial of collaborative care for patients with coexisting diabetes and depression.<sup>37</sup> The treatment protocol consisted of behavioral activation/pleasant events scheduling, a choice of either antidepressant medication or problem-solving treatment, and a maintenance/relapse prevention plan for patients in remission. The results showed improved depression care and patient outcomes, although improved depression care alone did not result in glycemic control.

Collaborative (enhanced) depression care is beneficial to disadvantaged populations. According to a study evaluating the Improving Mood-Promoting Access to Collaborative Treatment (IMPACT) management program for late-life depression, enhanced care compared with usual care resulted in greater improvement of depression and less health-related functional impairment among older black and Latino adults.<sup>45</sup>

Integration of evidence-based depression care into the chronic care model is the focus of an ongoing study of the patient-centered TEAMCare intervention. Recognizing that patients with depression lack self-efficacy, the intervention begins with depression care. The study will evaluate this evidence-based depression care approach in patients who have coexisting depression and poorly controlled diabetes and/or cardiovascular disease.

### Defining Healthy Coping

The panel discussion began by defining the elements that constitute healthy coping and delineating the attendant

behaviors. The following consensus definition emerged: “Healthy coping is responding to a psychological and physical challenge by recruiting available resources to increase the probability of favorable outcomes in the future.”

In elaborating on this definition, the panel noted that use of the word “healthy” implies something positive beyond the mere absence of depression or active psychological distress. Healthy coping is implied when the individual accepts that he or she has diabetes and integrates the reality of diabetes into his or her life. Acceptance of the disease and willingness to work with an educator to improve one’s life are signs of healthy coping.

The acronym from behavior science of ABC—affect, behavior, cognition—captures many of the domains of healthy coping. It could be used by educators as a means to simplify the complex nature of healthy coping and as a “checklist” of what needs to be addressed. However, this tool must not be confused with another ABC acronym (hemoglobin A1c, blood pressure, cholesterol). Perhaps a less confusing way to conceptualize the triad of healthy coping domains might be “thoughts, feelings, and actions.” Also integral to healthy coping are skills, attitudes, and behaviors. A basic principle that forms the foundation for healthy coping, as well as diabetes self-care in general, is the willingness to set goals and make changes. Furthermore, an underlying eagerness to learn helps set the stage for making positive changes.

Some of the skills, attitudes, and behaviors that reflect healthy coping include the following:

- Fulfilling health care obligations (eg, keeps appointments, takes medication)
- Expressing emotions
- Seeking help; looking for answers
- Demonstrating basic problem-solving skills
- Incorporating physical activity into one’s life
- Being proactive
- Demonstrating self-efficacy
- Overcoming barriers
- Having an adaptive coping style
- Being motivated
- Being optimistic

The panel also noted 3 important behaviors required by educators to promote healthy coping. Diabetes educators must (1) recognize that the person with diabetes needs to be involved in creating the treatment plan and be included in the treatment; (2) reinforce positive behaviors and avoid focus on the negative; and (3) recognize and reinforce the small goals undertaken by the person with diabetes.

### Patient Barriers to Healthy Coping

The potential barriers to healthy coping are numerous. Among those identified by the panel: low social support, financial stress or constraint, external locus of control, low problem-solving ability, stressful life events, low educational level, low health literacy/numeracy, external focus (taking care of others), poor prioritization skills, lack of access to providers and diabetes educators, compounding health problem (physical or cognitive limitations), and perceived stigma attached to admitting an inability to cope.

The panel also noted the emotional paralyzing effects of what some clinicians refer to as “diabetes overwhelming.”

The complexities of the disease can thwart the individual's sense of self-efficacy and ability to cope. Hopelessness leading to feeling depressed can ensue. In contrast, some patients fail to comprehend or accept the seriousness of diabetes; this lack of knowledge may be the result of trivializing comments from providers, such as the remark that the patient has "a touch of sugar."

The individual's environment also may be a barrier to healthy coping. For example, inner city neighborhoods often offer many convenience stores but few grocery stores, thereby discouraging healthy eating.

### Population Diversity and Coping Techniques

Healthy coping techniques differ among various populations. The diverse populations with diabetes can be described by age group (child, adolescent, adult, elderly); ethnicity; spirituality and religion; educational, literacy, and numeracy level; socioeconomic status; physical disability; and developmental/mental disability (eg, autism, schizophrenia). Cultural competency is important for educators, regardless of the population group, because not all coping interventions are appropriate for all groups. It is also likely that many populations have different definitions of coping, and consideration of this possibility should be a part of the treatment planning. For example, the notion of coping is different among American Indians than among the white population.

To best understand "the patient's world," it is important to perform a thorough assessment and to possibly do some additional research into cultural norms. In addition, population diversity calls for an awareness of all treatment modalities including homeopathic, complementary, and alternative approaches.

### Best Practices Versus Actual Practice

In discussing best practices and interventions in screening and evaluation available to educators to promote healthy coping, the panel noted that quality of life measures are useful in research but may be clinically limited because they uncover unhealthy rather than healthy coping. Although currently there is no consistent best practice among diabetes educators regarding healthy coping, educators do perform some type of assessment of a patient's self-management. Some educators use the Diabetes Self-Management Assessment Report (D-SMART) tool. Others simply ask a few questions, such as: "How many meals do you eat in a day?", "If you are eating less than 3 meals per day, have you discussed this with your physician?", or "Are you able to take a medicine 3 times a day with meals?" In light of the lack of a best practice in this regard, the panel asserted that it is better to "do something rather than nothing."

Currently in development is the Behavior Score Instrument (BSI), a questionnaire in which patients report their actions relevant to the AADE7 behaviors over a period of time. Creating a standard metric for assessing behavior, the BSI gives a sense of how well the patient is doing with achieving goals at any point of time and yields scores for each of the 7 behaviors. The results are calculated numerically into a composite score and translated into a simple visual representation to present to the patient. The AADE anticipates that the instrument's simplicity and understandability will make it highly useful among educators.

### Promoting Use of Assessments and Enhancing Treatment Decisions

The panel deliberated on ways to encourage clinical use of coping assessments and application of their outcomes to enhance treatment for persons with diabetes. A marketing approach is needed, in which best practices are identified and promoted. Certainly technology that automates screening and treatment decision processes—as achieved with many electronic medical record (EMR) systems—will do much to increase use of assessments and apply their outcomes to treatment decisions. For example, most EMR systems have the capability to display a pop-up message to indicate the need for a particular assessment.

A major concern is the disconnect between the diabetes educator and the provider that often occurs once a patient is referred to the educator. A structured, documented plan for moving forward may be lacking, and a team approach may not enter into the provider's mind. Thus, educators need to inform providers about the benefits of assessing for coping status, applying the results of assessment to enhance treatment decisions, and ensuring teamwork in diabetes education and management. Diabetes educators should be involved from the start, impacting early decisions and asking the question: Is the patient ready for diabetes education? Perhaps early on the patient needs a special diabetes-focused appointment, as detailed in the patient care plan, with the provider and each team member including the educator.

Collaboration with other professional associations (eg, the Society of Behavioral Medicine) may help reverse this disconnect through various beneficial outcomes. For example, such alliances could increase dissemination of information, enable training of all team members, and facilitate reciprocal utilization of services.

### Translating Depression Screening and Intervention into Practice

How can educators translate depression screening and intervention into everyday practice? One example is seen in the Veterans Health Administration system, where nurses or other providers perform depression screening on all patients at least annually. If a patient screens positive for depression, an automatic consult for behavioral health and depression is triggered. Such a model requires that educators have a tool available to assess for depression as well as options for referral to a mental health practitioner. The Patient Health Questionnaire (PHQ-9) is probably the most common tool used for this purpose.<sup>46,47</sup> Follow-up is also important. Currently reimbursement and incentive are missing in the area of depression screening.

Pharmacists, who are perhaps the most accessible providers and who have good databases at their fingertips, can be central to the recognition of depression in people with diabetes. When patients pick up their medications, pharmacists often can ask 2 simple questions from the PHQ-2,<sup>48</sup> a subset of the PHQ-9, that would suggest the need to further assess for depression. Pharmacists can then make referrals back to the provider for further assessment, diagnosis, and treatment. However, it is important to remember that depression is only one of the issues that might make healthy coping more difficult for people with diabetes, and that assessment of anxiety and other problems should be done as

well. The DAWN (Diabetes Attitudes, Wishes, and Needs) Study indicated that more than 40% of respondents reported poor psychosocial well-being, whereas recognition of psychosocial issues by providers was consistently reported at much lower levels.<sup>49</sup> In addition to the pharmacist's role in this arena, the promotora model, in which community members serve as liaisons between the community and health/social service organizations, may be useful to assess family and social support systems.<sup>50</sup>

The *AADE Guidelines for the Practice of Diabetes Self-Management Education and Training (DSME/T)* proposes 5 levels of care among those who deliver diabetes education and care.<sup>51</sup> Roles in assessment and other functions are specified for each of these levels, which range from non-health care professional (level 1) to advanced level diabetes educator/clinical manager (level 5).

### Training Diabetes Educators to Incorporate Healthy Coping

Awareness is the first step in training educators to incorporate healthy coping skills into patient management. Educators need to assess the patient's coping status by asking questions relating to this realm. If AADE's BSI becomes a best practice for evaluating behavior status, progress in assessment will likely be realized and the stage will be set for helping patients achieve healthy coping.

The panel recognized that many diabetes educators are attuned to promoting healthy coping. Educators are sensitized to their patients' need to develop skills and support systems to handle the stresses of diabetes and life in general. Accountability is integral to healthy coping, as reflected by a person's adoption of the AADE7 Self-Care Behaviors.

Although many educators already address coping status via the questions they pose, others struggle with how to handle coping problems and psychosocial issues. The panel agreed that educators must be provided with tools and be taught how to assess for psychosocial issues and incorporate healthy coping into a visit. It is important that educators learn to become comfortable with probing, letting patients do more of the talking and generate ideas to manage their diabetes while also working on treatment plans jointly with their physician and extended diabetes treatment team.

### The Role of Computer-Assisted Tools

New technology can help clinicians encourage and motivate their patients to better manage their health. The Internet offers numerous Web sites that allow patients to enter their food intake, weight goals, and physical activity to assess their carbohydrate and/or caloric needs. These sites provide nutrition advice, recipes, and exercise tips based on patients' assessed needs and goals. Other Web sites allow patients to download data from their blood glucose meters. Furthermore, in an effort to address the personal aspects of diabetes such as feelings, quality of life, and willingness and ability to carry out recommendations, some Web sites offer assessment of the patient's readiness to change, followed by personalized recommendations and a means to track progress.

Interactive behavior change technology (IBCT) is one potential resource for improving the effectiveness of diabetes management programs in the face of today's limits on funding and staffing time.<sup>52</sup> IBCTs involve the use of hardware

and software to promote and sustain behavior changes.<sup>53</sup> In general, these tools serve to (1) assist patients and their clinicians to monitor changes relating to patients' health and self-care needs; (2) support patients' efforts to make behavior changes by promoting health and effective self-care; and (3) enhance communication between patients and potential supports for their disease management.<sup>52</sup>

The literature contains several reviews, which are generally positive, of IBCT applications to improve chronic illness care. One systematic review of randomized trials found that computerized educational programs improve the diet and metabolic indicators of patients with diabetes.<sup>54</sup> Other reviews, including one by the Cochran Collaboration, have concluded that IBCTs can improve end users' health-related knowledge, perceptions of social support, self-care behaviors, and clinical outcomes.<sup>55-57</sup>

Reimbursement barriers to telehealth and the adoption of new technology exist. Although additional opportunities to assess the value of telehealth are emerging,<sup>58</sup> further research is needed to examine why interactive tools are not used more frequently for diabetes self-management.

### Economic Implications

An understanding of the economic implications involving resources, utilization, and cost is critical to the adoption and sustainability of any health care intervention. Thus, cost-effectiveness is an important topic for research regarding healthy coping interventions. A systematic review of healthy coping<sup>4</sup> indicates that such interventions are surprisingly cost-effective overall. This observation is supported by economic analyses of interventions that address depression. For example, investigators of the IMPACT randomized controlled trial reported an incremental net benefit of \$1129 for patients with diabetes and depression who received the intervention.<sup>59</sup> Likewise, a 24-month study of patients at primary care clinics found that those who received a healthy coping intervention (ie, depression treatment) had significantly fewer days of depression compared with those who received usual care, resulting in an accumulated mean of 61 additional days free of depression.<sup>60</sup> Assuming that the value of 1 additional depression-free day equals \$10, the incremental benefit of the intervention was calculated at \$952 per patient treated. Moreover, the cost of outpatient health services for the intervention group averaged \$314 less than that for patients who received usual care.

The cumulative costs associated with poor diabetes self-management and the complications of diabetes—especially among those with diabetes who have negative emotions—may accentuate the cost-effectiveness of healthy coping interventions.<sup>4</sup> For healthy coping to be fully integrated into the model of diabetes self-management as discussed in this report, the costs as well as the benefits associated with the adoption of the model must be further examined. The current literature suggests that the benefits would outweigh the costs.

### Conclusions

Healthy coping is a complex, qualitative behavior that cannot be easily quantified. Indeed, it is easier to define the outcomes of healthy coping than to define the actual process. Therefore, a broad definition of healthy coping is advised,

with a focus on the positive elements that reflect this concept. Healthy coping closely interrelates with the other AADE7 self-care behaviors.

A team approach to addressing the patient's coping is critical. Team involvement relieves diabetes educators of the entire burden of supporting the patient in this regard. The team should be broadly defined, including those who are formally and informally involved.

Future efforts to address the issue of healthy coping need to include an updated review of the literature. In addition, questions regarding healthy coping should be considered for inclusion in the next National Diabetes Education Practice Survey of AADE members.

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