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## The Psychological Impact of Living With Diabetes:

### Women's Day-to-Day Experiences

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### Abstract

**Purpose**—The purpose of this study is to understand the feelings of depression, anxiety, and anger experienced by women with type 2 diabetes and the impact these feelings have on their overall quality of life.

**Methods**—Four focus groups (2 white, 2 African American) were conducted by ethnically matched professional moderators. Sessions were audiotaped, and transcriptions were analyzed using an inductive approach. Forty-one women (mean age, 55.6 years; SD = 7.9) who had type 2 diabetes for an average of 8.7 years (SD = 6.3) participated. Forty-two percent of the sample was African American.

**Results**—The themes generated directly from the focus group data are (1) struggling with the changing health situation; (2) encountering challenges in relationships with self, family, and others; (3) worrying about the present and future; (4) bearing multiple responsibilities for self and others; and (5) choosing to take a break. Women also expressed feelings of depression, anxiety, and anger, which were primarily related to having diabetes as well as managing the multiple responsibilities of being a caregiver. There were more similarities than differences noted by race.

**Conclusions**—Women with type 2 diabetes experience feelings of depression, anxiety, and anger, which affect their health and overall quality of life. The findings suggest that health care providers should assess the psychological health of women with type 2 diabetes when developing plans of care. By understanding and addressing the emotional health of women with type 2 diabetes, the relationships between the patient, family, and health care provider may improve, allowing for more successful diabetes management.

Diabetes is a leading cause of morbidity in the United States. Cardiovascular disease (CVD) is the leading cause of death in persons with diabetes.<sup>1</sup> Diabetes is the only disease that causes women to have the same prevalence of heart disease as men.<sup>2</sup> While cardiac mortality for men with diabetes has declined (13.1%), there has been a 23% increase in age-adjusted cardiac mortality for women with diabetes.<sup>3</sup> This poor outcome, occurring in a time of significant advances in the management of heart disease, suggests the need to consider

directing treatment toward management of other factors such as depression and other dysphoric moods.

Depression is an independent risk factor for CVD and is associated with poorer self-management and decreased health-related quality of life.<sup>4-6</sup> Approximately 25% of persons with diabetes have depression, and the rate of depression in women with diabetes is double that of men with diabetes.<sup>2,4,7</sup> Women with diabetes exhibit poorer diabetes self-care, glycemic control, and quality of life than men with diabetes. These outcomes are further exacerbated by depression.<sup>8</sup> Other affective symptoms, such as anxiety and anger, that commonly accompany depressive symptoms<sup>9,10</sup> appear to impose similar risks for poor medical outcomes and occur more often in women with diabetes than men with diabetes.<sup>11</sup>

Most diabetes self-management programs have a component that may briefly address self-care strategies for dysphoric symptoms, particularly depression; however, their primary emphasis is not on the assessment and management of these symptoms. Therefore, the purpose of the study is to understand the feelings of depression, anxiety, and anger experienced by women with type 2 diabetes and the impact these feelings have on their overall quality of life.

## Background

Traditional management of diabetes targets diet, medication, and exercise, yet the psychological aspects of this disease are overwhelming. Depression in adults with diabetes is very common. The rate of depression in persons with diabetes is 2 times greater than for persons without diabetes.<sup>7</sup> However, given that depression is not always detected by the health care provider, it frequently remains untreated.<sup>12</sup> In addition, barriers and beliefs about depression and its management may interfere with the ability to seek and obtain treatment of this disorder, particularly for African Americans.<sup>13</sup> Of serious concern is that depression has a negative effect on glycemic control and self-management, thereby increasing cardiovascular risk.

Depression directly affects glycemic control. It has been postulated that this may be due to the effect of depression on glycemic control via neuroendocrine pathways as well as by the effect of depression on diabetes self-management. Depression-induced changes in neuroendocrine or neurotransmitter functions have been proposed as mechanisms that negatively affect glycemic control. The results of these mechanisms include hyperglycemia, increased platelet activation, inflammation, and autonomic dysregulation, all of which increase cardiovascular risk.<sup>14,15</sup> The effect of depression on glycemic control is significant. A meta-analysis of 27 studies demonstrated that depression is significantly associated with hyperglycemia for both type 1 and type 2 diabetes.<sup>16</sup> In addition, hyperglycemia has been associated with an increased risk of cardiovascular events. Khaw et al<sup>17</sup> examined 10 000 persons who were followed longitudinally to examine the relationship between hemoglobin A1c (HbA1c) and incident cardiovascular events after controlling for risk factors. They reported that for every 1 point increase of HbA1c greater than 5%, there was a 22% increase in cardiovascular events for men and a 28% increase for women. Hemoglobin A1C, a measure of glycemic control, is dependent on successful diabetes self-management.

Depression affects diabetes self-care management. Depression in persons with diabetes is associated with poorer diet and medication adherence, greater functional impairment, and higher health care costs.<sup>18,19</sup> Lin et al<sup>20</sup> examined the relationship between diabetes monitoring, self-care activities, and depression in 4463 persons with diabetes. Findings indicated that major depression was associated with less physical activity, an unhealthy diet, and lower adherence to medications (oral hypoglycemic, antihypertensive, and lipid-lowering medications). McKellar et al<sup>21</sup> examined whether persons with diabetes

experiencing depressive symptoms had more symptoms of poor glucose control and how this related to diabetes self-care. They found that depressive symptoms had a direct and significant effect on diabetes regimen adherence, which in turn affected diabetes symptoms.

Other affective disorders such as anxiety and anger often accompany depression. The prevalence of anxiety in persons with diabetes has been reported to be as high as 30% to 40%.<sup>11,22,23</sup> Research indicates that women with diabetes have significantly higher levels of anxiety than men (55% vs 33%,  $P < .0001$ ).<sup>11</sup> Anxiety has been directly associated with poor glycemic control as well as poorer quality of life.<sup>9–11</sup> Anxiety has also been reported to decrease self-care behaviors<sup>22</sup> and increase sympathetic nervous system stimulation, contributing to increased blood pressure. All of these are ways in which anxiety may contribute to increased cardiovascular risk in women with diabetes.

Anger has also been linked to depression.<sup>24</sup> The regimen for the management of diabetes can be demanding, have unpleasant side effects, and cause feelings of frustration and anger, particularly when blood sugar level remains uncontrolled.<sup>25</sup> Frustration and anger about having diabetes, as well as the impact of diabetes on interpersonal relationships, have been reported by African Americans with diabetes.<sup>26</sup> In addition, higher levels of anger have been reported for persons with diabetes seeking treatment of mental health disorders compared to persons without diabetes.<sup>27</sup> Epidemiologic studies have demonstrated that high levels of anger increase the risk of coronary heart disease.<sup>28</sup> However, there has been limited research examining anger in persons with diabetes, particularly as it relates to glycemic control and cardiovascular disease.<sup>29–31</sup>

Diabetes self-management programs are effective but do not target emotional issues of diabetes. Educating women about diabetes self-management and assisting them in the successful implementation of these skills is the cornerstone of diabetes care. Most diabetes self-management programs have a component that may briefly address how to deal with dysphoric symptoms such as depression, anxiety, and anger<sup>32,33</sup>; however, their primary emphasis is not on the assessment and management of these symptoms. Although medical management is an important consideration for persons who need assistance in handling these emotions, particularly depression, nursing has the potential to intervene in terms of providing education and developing skills to assist patients in the management of these feelings. Therefore, an understanding of the dysphoric symptoms experienced by women with diabetes is important for developing or modifying current self-management strategies.

## Methods

### Design

This study used a descriptive, exploratory design. Focus groups were the method used for data collection. The American Diabetes Association has published guidelines for conducting focus groups and suggests that groups specific to race/ethnicity may yield more valuable information for developing programs that are targeted to assist individual groups.<sup>34</sup> Therefore, racially-specific focus groups were conducted.

### Sample

Eligibility criteria were (1) women, (2) aged 40 years and older, (3) type 2 diabetes for longer than 6 months, and (4) currently receiving medical care for diabetes. These criteria were selected because most women develop diabetes after the age of 40 years, and having diabetes for at least 6 months would provide some experience in living with and managing the disease. Women were recruited from a large Midwestern university medical center and the surrounding community.

Letters introducing the focus group study were mailed to more than 100 women who had participated in another study conducted by the principal investigator at a Midwestern university medical center. In addition, recruitment flyers were distributed in the various clinics at the medical center. Overall, there were about 75 inquiries about the study. Reasons given for not participating were generally due to a time conflict. The target sample size was 40, which allowed for 4 focus groups with 10 women per group. In anticipation that not all participants would attend, groups were scheduled with 10 to 13 women for each focus group. There were 2 focus groups with white women, and attendance was 100% (13 of 13) and 91% (11 of 12), respectively. There were 2 focus groups with black women, and attendance was 91% (12 of 13) and 50% (5 of 10). In the focus group in which only half the participants attended, reasons for not coming were illness (n = 1), death in family (n = 1), an unplanned event (n = 1), and unknown (n = 2).

Forty-one women participated in the study. The mean age was 55.6 years (SD = 7.9; range, 41–68 years), and the mean length of time with diabetes was 8.7 years (SD = 6.3; range, 6 months to 25 years). The sample was 42% African American. Fifty-five percent of the women were married, with 20% divorced, 12.5% never married, and 12.5% widowed. In terms of taking medications for dysphoric symptoms, 17% were taking antidepressant medication and 15% were taking antianxiety medication.

## Procedures

The study was approved by the Institutional Review Board of the principal investigator. The focus groups were conducted at the medical center in a conference room that seated people comfortably. Informed consent was obtained; women were told that the sessions would last 2 hours and that they would be audiotaped. Women also completed a short demographic and diabetes health information questionnaire before the focus groups.

In addition to the study participants, 3 individuals attended each session: the principal investigator, the focus group moderator, and the note taker. Each focus group moderator (ethnically matched to the group) was a nurse who had been trained in focus group methodology and had substantial experience in conducting focus groups with clinical populations. A moderator guide was used to present the topics in the same format for each feeling (ie, depression, anxiety, anger) that was explored: (1) Do you ever have feelings of depression? (2) What kinds of things make you have that feeling? (3) What do you do when you have that feeling? A note taker recorded information on a large flip chart to assist in summarizing major points voiced by the group. Following each session, there was a debriefing discussion among the focus group leader, note taker, and principal investigator, in which the focus group process and findings were discussed and the notes reviewed.

## Data Analyses

The demographic and health information from the questionnaire was analyzed using descriptive statistics. The audiotapes from each session were transcribed verbatim by a professional transcriptionist. All typed transcripts were verified 100% with the audiotapes by a member of the research team. Next, the transcripts were sent to the research team members, who were given 6 weeks to review the transcripts. There were 4 researchers who independently reviewed the transcripts and identified themes. An inductive approach was used for performing the content analysis of the written responses.<sup>35</sup> Initially, the team generated 8 themes. Since several of these themes overlapped, the researchers met 3 additional times to discuss the themes that had been captured and to clarify and refine their meaning. When there were inconsistencies about the meaning of the themes, the transcripts were rereviewed. This iterative process continued until 100% agreement was reached among the researchers regarding the 5 major themes of the study.

## Results

The content analysis of the focus group data generated 5 major themes, which were consistent across both the African American and white groups. The themes presented first in this report are those that represent the topics that were most prevalent in the focus group discussions. The themes were (1) struggling with changing health situation; (2) encountering challenges in relationships with self, family, and others; (3) worrying about the present and future; (4) bearing multiple responsibilities for self and others; and (5) choosing to take a break.

The first theme, “struggling with changing health situation,” was the most prevalent one in all the focus groups. Given the amount of data that were generated for this theme, it was grouped into those struggles that were general in nature and those that were disease specific (Table 1). Women reported that having diabetes forced them to plan their life accordingly (eg, meal, travel) to control their blood sugar level. Some reported how a routine task such as driving a car was now a personal struggle. Although they wanted to drive, realistic concerns about difficulty in feeling the pedal due to peripheral neuropathies and possible dizziness from a low blood sugar level were reasons why they were reluctant to drive. The need for structure in their lives to keep their blood sugar level under control was clearly articulated by all groups.

The second theme, “encountering challenges in relationships,” was grouped into those relationships that had to do with self, family, health care providers, and others (Table 2). During the focus groups, women expressed feelings of anger toward themselves (eg, for not taking better care of their health) as well as their family (eg, family telling patients what to do and not understanding their experience). Women also expressed frustration and anger in their relationships with their health care providers. One woman reported that seeing her physician was like “doing the rosary” since she continued to hear the same information at every visit. Others felt that their health care provider was not listening to their individual needs. Some women reported that others (coworkers, friends, and even perfect strangers) angered them when they provided unsolicited comments regarding what they should not eat and what groceries they should not buy.

The third theme was “worrying about the present and the future” (Table 3). Anxiety was verbalized regarding the worries that were expressed. Although there were numerous quotes related to this theme, most data focused on the cost of health care, insurance, and worries about the complications of diabetes. A number of women expressed dissatisfaction with their jobs but stated that they could not leave since they needed the health benefits.

The fourth theme, “bearing multiple responsibilities for self and others,” had to do with the numerous responsibilities that women have in caring for their family members as well as themselves (Table 4). There was a particular emphasis on the fact that because they were providing care for others, they often did not have time to take care of their own health needs. In addition, not having time to just rest and experience some quiet time was voiced by many women.

The final theme generated by the focus groups was “choosing to take a break” (Table 5). This theme addressed the need by women to have moments of relief from their diabetes regimen. Some even reported that this was the way in which they coped with their diabetes. They referred to it as taking a “diabetic break” or “diabetic holiday” to feel better. Other coping methods reported by women included eating, sleeping, praying, being in control, exercising, and diversional activities (eg, sewing, shopping, and watching a movie).

Descriptive analysis of the data revealed that women with type 2 diabetes expressed feelings of depression, anxiety, and anger that were primarily related to having diabetes as well as managing the multiple responsibilities of being a caregiver. Feelings of sadness or depression were generated by being overweight, having diabetes, and not being able to do what they used to do. Women were anxious about the complications of diabetes, such as possible dialysis, blindness, and being dependent on others. An important finding not well documented in the literature was that women reported feeling angry with themselves for not taking care of their own health and anger toward their family members, health care provider, and others for the manner in which they were directed to manage their health. Women also reported that these emotions often occurred simultaneously or with one emotion precipitating another. For example, women reported being overwhelmed and stressed, which led them to eat the wrong things. This subsequently led to feelings of sadness or depression as well as anger for knowing better and deliberately not doing it. These feelings made management of their diabetes challenging and, as a consequence, affected their quality of life.

## Discussion

The experience of dysphoric symptoms (ie, depression, anxiety, and anger) in women with type 2 diabetes from their perspective has not been well studied. The finding that women with diabetes reported having depression and anxiety is consistent with the literature. Feelings of stress, worry, depression, and anxiety in persons with diabetes have been reported. There is considerably less evidence regarding the emotion of anger in persons with diabetes as compared to anxiety and depression. The current study identified that the emotion of anger was present and attributed to challenges in their relationships.

The 5 major themes from the focus groups provided insight as to the struggles that women with type 2 diabetes experience. These major themes were similar between white and African American women. The finding “struggling with health situation” is very common for persons with diabetes. Skelly et al<sup>36</sup> reported that having control over the disease and being able to exercise, take medications, and prevent diabetes from getting worse were important concerns voiced by African Americans with type 2 diabetes. This is consistent with the current study, in which both white and African American women stated that control (in their life as well as with the disease) was important. An African American woman in one focus group summarized this sentiment by the following statement: “To control the diabetes is to control yourself.”

The theme “encountering challenges in relationships” has been discussed in the literature largely in the context of friends or family members who attempt to control diabetes management (especially food) for the individual<sup>36,37</sup> or offer unsolicited advice.<sup>38</sup> It has been reported that for African American women with type 2 diabetes, there is a lack of understanding of their needs by members of their social network. This finding is consistent with the following statement of one woman in our study: “They don’t have the ability to really to truly understand simply because of the fact that they don’t have it.” The struggle with the health care provider regarding health needs has not been well documented. One qualitative study of persons with diabetes described them as being angry at their physicians because they “only got serious about my diabetes after I started having problems [long-term complications].”<sup>39(p90)</sup> Research has suggested that for African American women, the health care provider must identify the support needs for women with type 2 diabetes and improve communication to make the management of their diabetes more attainable.<sup>39</sup> This finding is consistent with the current study in that both white and African American women reported the need to be heard by their health care provider. Recent research has demonstrated that for patients with diabetes, their preferences for interacting with health care providers (ie,



relationship style) are associated with differences in depression treatment outcomes.<sup>40</sup> In addition, when support for autonomy has been given by health care providers, it has resulted in greater perceived competence, increased patient satisfaction, and fewer depressive symptoms in persons with diabetes. Therefore, recommendations have been made for training health care providers to be supportive of autonomy and to learn better communication skills, which may significantly improve the outcomes in persons with diabetes.<sup>41</sup>

“Worrying about the present and the future” is a realistic issue for persons with type 2 diabetes. Women in our study expressed concerns about the overwhelming economic costs of diabetes and its devastating complications. Research has demonstrated that persons with diabetes are aware of the complications of diabetes (particularly amputation, blindness, coma, and death) and have even observed these complications in relatives and friends.<sup>36,37</sup> In the current study, many women reported observing the complications in family members and feared that they would suffer similar consequences.

The theme “bearing multiple responsibilities for self and others” has been reported by a number of studies in the literature.<sup>36,42,43</sup> Recently, it was reported that age and difficulty in saying no are independent predictors of multiple caregiver barriers for African American women with type 2 diabetes.<sup>43</sup> In the current study, the issue that women have multiple roles that affect their ability to care for themselves is reported for both white and African American women. In addition, the need to better balance work and family responsibilities is also expressed.

It is commonly reported that persons with diabetes have difficulty being compliant with their self-management regimen<sup>44</sup>; however, the term *diabetes overwhelmus* from the lay literature may provide an important reason for the problem. This is when individuals are simply overwhelmed by the demands of their diabetes in addition to the stresses at home, work, and other aspects of life.<sup>45</sup> Therefore, the final theme expressed by the groups of “choosing to take a break” may provide an important strategy for dealing with this problem. In the current study, choosing to take a break is a method of coping with the constraints and lifestyle changes that are imposed by their disease. Whether or not this was a healthy method of coping, it was expressed in all 4 focus groups. As far as we know, this is the first study to report that people intentionally use this strategy to deal with the overwhelming nature of diabetes self-care. We did find one public Web site that suggests that “taking a diabetes vacation” is a mechanism whereby persons may experience relief and that can be done safely and with some planning.<sup>46</sup> Thus, health care providers may wish to work with their patients to plan for healthy breaks from their diabetes regimen and to provide guidelines for a “safe vacation.”

There were more similarities than differences among the groups when examining the data by race. The 5 themes reported were found in all focus groups. Although both African Americans and whites identified the use of prayer as a coping mechanism, it was the primary coping method used by African American women. They reported that it was “just a given.” This finding is consistent with other work in which African American women with type 2 diabetes identify spirituality as an important factor in their disease and coping.<sup>47</sup>

In terms of “struggles in relationships with others,” both African Americans and whites reported bias in their health care provider relationship; however, that experience was somewhat different. One focus group of African American women expressed concern regarding racial bias in their treatment. One woman stated, “Your ethnic background dictates how you are treated, and if you don’t know how you need to be treated, then you accept bad treatment. But that made me very angry.” Benkert and Peters<sup>48</sup> reported that

African American women experienced anger when faced with prejudice in the health care system. However, it served as a catalyst for them to obtain better health care by using it as a problem-focused coping strategy. Of concern, however, is that these authors noted that while anger may be helpful in the short term, its long-term consequences are unknown. In the current study, one focus group of white women reported a different type of bias in their health care provider relationship. They expressed bias in terms of their obesity when seeking treatment for their health care. One woman expressed her viewpoint by the following statement: “One day I went into the doctor’s office and I said, ‘Close your eyes and pretend I’m not overweight, and I’m telling you I have these problems. What would you tell me?’” Negative perceptions regarding obese persons have been reported in the literature, even among nurses.<sup>49</sup> Because of these perceptions, obese women do not seek necessary preventive services (eg, breast cancer screening) to avoid negative encounters with their health care provider.<sup>50</sup>

### Limitations

Because there were ethnically matched moderators, the same moderator could not be used for all focus groups, which may be a limitation of the study. Moderators varied on the amount of time spent on any one emotion due to the group’s desire to discuss that emotion, yielding somewhat different data by group. In addition, because the moderator guide specified that certain emotions (ie, depression, anxiety, and anger) be addressed, participants may not have shared other feelings. One qualitative study reported 32 different emotions experienced by persons with type 2 diabetes and grouped these emotions into 7 categories: fear, irritation, and sadness (most common) and anger, happiness, anxiety, and guilt (less common).<sup>37</sup> In the current study, more similarities than differences were found in the data by race. Future research will be needed to identify ethnically specific differences in the emotions experienced by women with diabetes.

### Implications

An important finding from this study is that women with type 2 diabetes are encountering challenges in their relationships. On a personal level, they were angry with their inability to be successful with managing their diabetes. They were also distressed by the lack of understanding by others regarding how difficult it is to live with the disorder. Their lack of success in self-management was attributed, in part, to the fact that their health care provider was not listening to their needs and was reiterating the same information at each visit. Our findings suggest that assessment of psychological health and its affect on diabetes self-management is important for health care providers. Assessment for depression is now recommended as part of the standard of care for diabetes management.<sup>51</sup> Given that other emotions also have been related to poor glycemic control, discussions with patients about their psychological well-being can identify those individuals who may need a referral to a mental health professional for evaluation and treatment. In addition, discussions with patients that address more than their physical health may assist in building a relationship with the health care provider, to allow patients to voice their frustrations and anger and to plan for changes in the diabetes regimen.

Another important finding is that struggling with a changing health situation causes restrictions in day-to-day living. Concerns about controlling blood sugar level caused women to self-impose restrictions on driving, traveling on vacation, and having meals with friends. The self-imposed restrictions on day-to-day living because of possible hypoglycemia were distressing for participants in our study, often precipitating anger and depression. Of serious concern is that self-imposed restrictions (eg, staying at home) may cause persons with diabetes to isolate themselves, which may precipitate or exacerbate depression or anxiety. By assessing these routine activities with the patient, the health care provider may gain



insight into the degree to which glycemic control may be affecting normal activities, particularly those activities that provide enjoyment.

Finally, the need to take a break to cope with the daily routine of diabetes management was clearly articulated by all groups. Although it may not be a healthy mechanism with which patients can cope with their disease, it may be one that can be planned so that it is safe. Again, by using an approach with the patient that promotes an open dialogue about the difficulties of adhering to the diabetes regimen, the health care provider can assist the patient with safe self-management skills. By doing so, the patient may be able to experience a “diabetes holiday” without feeling anger, guilt, and depression afterward.

Currently, nurses do most of the teaching for persons with diabetes. It is essential that nurses address the psychological issues that women may share. The recognition rates of emotional problems by diabetes nurses has been reported to be low,<sup>52</sup> suggesting the need to educate health care professionals as well as to use appropriate assessment tools to identify these problems. In addition, our findings suggest that diabetes education programs should include a component on healthy mental living, and the consequences of poor emotional health on diabetes complications have been demonstrated in other studies. Depression increases the development of complications such as retinopathy, nephropathy, neuropathy, and heart disease for persons with diabetes.<sup>53</sup> More recently, evidence indicates that the presence of both depression and diabetes is associated with increased risk of death that is greater than the risk associated with either diabetes or depression alone.<sup>54</sup> Therefore, early recognition and prompt treatment of poor psychological health for women with type 2 diabetes may provide an important strategy for improving diabetes self-management, reducing complications, and improving overall quality of life.

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## References

1. American Diabetes Association. [Accessed September 30, 2004] Diabetes statistics for women. [www.diabetes.org/diabetes/statistics](http://www.diabetes.org/diabetes/statistics)
2. Clouse R, Lustman P, Freedland K, Griffith L, McGill J, Carney R. Depression and coronary heart disease in women with diabetes. *Psychosom Med.* 2003; 65:376–383. [PubMed: 12764210]
3. Gu K, Cowie C, Harris M. Diabetes and decline in heart disease mortality in US adults. *JAMA.* 1999; 281:1291–1297. [PubMed: 10208144]
4. Lustman PJ, Anderson RJ, Freedland KE, de Groot M, Carney RM. Depression and poor glycemic control: a meta-analytic review of the literature. *Diabetes Care.* 2000; 23:934–942. [PubMed: 10895843]
5. Piette J, Richardson C, Valenstein M. Addressing the needs of patients with multiple chronic illnesses: the case of diabetes and depression. *Am J Manag Care.* 2004; 10:41–51. [PubMed: 14738186]
6. Lin E, Katon W, Von Korff M, et al. Relationship of depression and diabetes, self-care, medication adherence, and preventive care. *Diabetes Care.* 2004; 27:2154–2160. [PubMed: 15333477]
7. Anderson RJ, Freedland KE, Clouse RE, Lustman PJ. The prevalence of comorbid depression in adults with diabetes: a meta-analysis. *Diabetes Care.* 2001; 23:1069–1078. [PubMed: 11375373]
8. Whittemore R, Melkus G, Grey M. Self-report of depressed mood and depression in women with type 2 diabetes. *Issues Ment Health Nurs.* 2004; 25:243–260. [PubMed: 14965845]

9. Peyrot M, Rubin R. Levels and risk of depression and anxiety symptomatology among diabetic adults. *Diabetes Care*. 1997; 20:585–590. [PubMed: 9096984]
10. Rubin R, Peyrot M. Psychological issues and treatments for people with diabetes. *J Clin Psychol*. 2001; 57:457–478. [PubMed: 11255202]
11. Grigsby A, Anderson R, Freedland K, Clouse R, Lustman P. Prevalence of anxiety in adults with diabetes: a systematic review. *J Psychosom Res*. 2002; 53:1053–1060. [PubMed: 12479986]
12. Clairborne N, Massaro E. Mental quality of life: an indicator of unmet needs in patients with diabetes. *Soc Work Health Care*. 2000; 32:25–43. [PubMed: 11291890]
13. Egede L. Beliefs and attitudes of African Americans with type 2 diabetes toward depression. *Diabetes Educ*. 2002; 28:258–268. [PubMed: 11924303]
14. Kanel R, Mills P, Fainman C, Dimsdale J. Effects of psychological stress and psychiatric disorders on blood coagulation and fibrinolysis: a biobehavioral pathway to coronary artery disease. *Psychosom Med*. 2001; 63:531–544. [PubMed: 11485106]
15. Carney RM, Freedland K, Miller G, Jaffe A. Depression as a risk factor for cardiac mortality and morbidity: a review of potential mechanisms. *J Psychosom Res*. 2002; 53:897–902. [PubMed: 12377300]
16. Lustman PJ, Anderson RJ, Freedland KE, de Groot M, Carney RM. Depression and poor glycemic control: a meta-analytic review of the literature. *Diabetes Care*. 2000; 23:934–942. [PubMed: 10895843]
17. Khaw KT, Wareham N, Bingham S, Luben R, Welch A, Day N. Association of hemoglobin A1c with cardiovascular disease and mortality in adults: the European Prospective Investigation into cancer in Norfolk. *Ann Intern Med*. 2004; 141:413–420. [PubMed: 15381514]
18. Ciechanowski P, Katon W, Russo J. Depression and diabetes: impact of depressive symptoms on adherence, function, and costs. *Arch Intern Med*. 2000; 160:3278–3285. [PubMed: 11088090]
19. Ciechanowski P, Katon W, Russo J, Hirsch IB. The relationship of depressive symptoms to symptom reporting, self-care, and glucose control in diabetes. *Gen Hosp Psychiatry*. 2003; 25:246–252. [PubMed: 12850656]
20. Lin E, Katon W, Von Korff M, et al. Relationship of depression and diabetes, self-care, medication adherence, and preventive care. *Diabetes Care*. 2004; 27:2154–2160. [PubMed: 15333477]
21. McKellar JD, Humphreys K, Piette JD. Depression increases diabetes symptoms by complicating patients' self-care adherence. *Diabetes Educ*. 2004; 30:485–492. [PubMed: 15208846]
22. Anderson R, Grigsby A, Freedland K, DeGroot M, McGill J, Clouse R. Anxiety and poor glycemic control: a meta-analytic review of the literature. *Int J Psychiatry Med*. 2002; 32:235–247. [PubMed: 12489699]
23. Lloyd CE, Dyer PH, Barnett AH. Prevalence of symptoms of depression and anxiety in a diabetes clinic population. *Diabet Med*. 2000; 17:198–202. [PubMed: 10784223]
24. Pasquini M, Picardi A, Biondi M, Gaetano P, Morosini P. Relevance of anger and irritability in outpatients with major depressive disorder. *Psychopathology*. 2004; 37:155–160. [PubMed: 15237244]
25. Snoek, F.; Skinner, TC., editors. *Psychology in Diabetes Care*. New York, NY: Wiley and Sons; 2005.
26. Hill-Briggs F, Cooper D, Lorman K, Brancati F, Cooper L. A qualitative study of problem solving and diabetes control in type 2 diabetes self-management. *Diabetes Educ*. 2003; 29:1018–1028. [PubMed: 14692375]
27. Kolbasovsky A. Anger and mental health in type 2 diabetes. *Diabetes and Primary Care*. 2004; 6(2):44–48.
28. Kubzansky L, Kawachi I. Going to the heart of the matter: do negative emotions cause coronary heart disease? *J Psychosom Res*. 2000; 48:323–37. [PubMed: 10880655]
29. Kolbasovsky A. A pilot project to address the behavioral health needs of people with diabetes. *Manag Care Interface*. 2005; 18:47–53.
30. Chyun DA, Melkus GD, Katten DM, et al. The association of psychological factors, physical activity, neuropathy and quality of life in type 2 diabetes. *Biol Res Nurs*. 2006; 7:279–288. [PubMed: 16581898]

31. Golden SH, Williams JE, Ford DE, et al. Anger temperament is modestly associated with the risk of type 2 diabetes mellitus: the atherosclerotic risk in communities study. *Psychoneuroimmunology*. 2006; 31:325–332.
32. Lorig K, Ritter R, Stewart A, et al. Chronic disease self-management program: 2 year health status and health care utilization outcomes. *Med Care*. 2001; 11:1217–1223. [PubMed: 11606875]
33. Lorig, K.; Holman, H.; Sobel, D.; Laurent, D.; Gonzalez, V.; Minor, M. *Living With a Healthy Life With Chronic Conditions*. 3rd ed.. Boulder, CO: Bull; 2006.
34. Centers for Disease Control and Prevention. [Accessed October 9, 2003] Using focus groups to gain an understanding of living with diabetes in various communities. <http://www.cdc.gov/diabetes/pubs/focus/index.htm>
35. Krueger, RA.; King, JA. *Analyzing & Reporting Focus Group Results*. Thousand Oaks, CA: Sage; 1998.
36. Skelly A, Dougherty M, Gesler W, Soward A, Burns D, Arcury T. African American beliefs about diabetes. *West J Nurs Res*. 2005; 28:9–29. [PubMed: 16676724]
37. DeCoster VA. The emotions of adults with diabetes: a comparison across race. *Soc Work Health Care*. 2003; 36(4):79–99. [PubMed: 12836781]
38. Polonsky W. Diabetes etiquette: uncharted territory. *Diabetes Forecast*. 2006;9. [PubMed: 16628843]
39. Carter-Edwards L, Skelly AH, Cagle CS, Appel SJ. They care but don't understand: family support of African American women with type 2 diabetes. *Diabetes Educ*. 2004; 30:493–501. [PubMed: 15208847]
40. Ciechanowski P, Russo J, Katon W, et al. The association of patient relationship style and outcomes in collaborative care treatment for depression in patients with diabetes. *Med Care*. 2006; 44:283–291. [PubMed: 16501401]
41. Williams G, McGregor H, King D, Nelson C, Glasgow R. Variation in perceived competence, glycemic control, and patient satisfaction: relationship to autonomy support from physicians. *Patient Educ Couns*. 2005; 57:39–45. [PubMed: 15797151]
42. Cagle CD, Appel S, Skelly AH, Carter-Edwards L. Mid-life African American women with type 2 diabetes: influence on work and multicaregiver role. *Ethn Dis*. 2002; 12:555–566. [PubMed: 12477143]
43. Samuel-Hodge CS, Skelly AH, Headen S, Carter-Edwards L. Familial roles of older African-American women with type 2 diabetes: testing of a new multiple caregiving measure. *Ethn Dis*. 2005; 15:436–443. [PubMed: 16108304]
44. Lerman I. Adherence to treatment: the key for avoiding long-term complications of diabetes. *Arch Med Res*. 2005; 36:300–306. [PubMed: 15925020]
45. Rubin R. Dealing with diabetes overwhelms. *Diabetes Self Manag*. Nov-Dec;2000 :117–121.
46. Polonsky, W. [Accessed July 3, 2006] Behavioral Diabetes Institute—the emotional side of diabetes: 10 things you need to know. [www.behavioraldiabetes.org](http://www.behavioraldiabetes.org)
47. Samuel-Hodge CD, Headen SW, Skelly AH, et al. Influences on day-to-day self management of type 2 diabetes among African American women: spirituality, the multi-caregiver role, and other social context factors. *Diabetes Care*. 2000; 23:928–933. [PubMed: 10895842]
48. Benkert R, Peters R. African American women's coping with health care prejudice. *West J Nurs Res*. 2005; 27:863–889. [PubMed: 16275704]
49. Brown I. Nurses' attitudes towards adult patients who are obese: literature review. *J Adv Nurs*. 2006; 53:221–232. [PubMed: 16422721]
50. Rogge MM, Greenwald M, Golden A. Obesity, stigma, and civilized oppression. *Adv Nurs Sci*. 2004; 27:301–315.
51. American Diabetes Association. *American diabetes clinical recommendations guidelines 2006*. *Diabetes Care*. 2006; 29(suppl 1)
52. Pouwer F, Beekman ATF, Lubach C, Snoek FJ. Nurses' recognition and registration of depression, anxiety, and diabetes-specific emotional problems in outpatients with diabetes mellitus. *Patient Educ Couns*. 2006; 60:235–240. [PubMed: 16442465]

53. Williams M, Clouse R, Lustman P. Treating depression to prevent diabetes and its complications: understanding depression as a medical risk factor. *Clin Diabetes*. 2006; 24:79–86.
54. Egede L, Nietert P, Zheng D. Depression and all-cause and coronary heart disease mortality among adults with and without diabetes. *Diabetes Care*. 2005; 28:1339–1345. [PubMed: 15920049]

**Table 1****Struggling With Their Changing Health Situation**

<p>General issues</p> <ul style="list-style-type: none"><li>• “It puts time constraints on us ... you’re just not free to go out and have a day out to yourself because you always have to think about, I have to take that second shot or second pill.”</li><li>• “You have to plan life around when you get your next meal.”</li><li>• “I don’t do half of the things I used to do.... You can’t go on vacations with people like you used to because you can’t keep up with them.... So I stay home a lot. So then the depression—the whole circle starts again.”</li><li>• “I can’t feel my feet and sometimes I hit the wrong pedal [when driving]—it’s little things that you can’t do anymore or that are hard to do.”</li></ul> <p>Specific issues</p> <ul style="list-style-type: none"><li>• “When I’m feeling like my life is in balance and I’m feeling good about everything, I’m in control and it’s easier for me to be in control.”</li><li>• “You don’t control the stress level; you don’t control your sugar.”</li><li>• “Once you remove the structure, everything flies out and then your numbers are all over the place.”</li><li>• “We know how to control our diabetes by eating and taking our medications and that way, diabetes don’t get us; we get the diabetes.”</li><li>• “The bottom line, I think, is control. Because to control the diabetes is to control yourself.”</li></ul>
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**Table 2**

## Encountering Challenges in Their Relationships

Self	<ul style="list-style-type: none"> <li>• “You know that you are going to destroy your life. I get really angry because I know better and I can hear myself saying these things to her [mother who died of diabetes complications at age 60], and I keep saying them to myself.”</li> <li>• “I felt angry with myself because I could have avoided this if I had been more diligent and conscientious about what I knew could happen.”</li> <li>• “I get so angry at myself for knowing better and deliberately not doing it.”</li> </ul>
Family	<ul style="list-style-type: none"> <li>• “My own kids are on me. I have a son ... he’s on me constantly about, oh, I shouldn’t have eaten this. I get so sick of it.”</li> <li>• “But I think a lot of times they don’t have the ability really to truly understand simply because of the fact that they don’t have it. My husband is probably one of the healthiest people that I know.”</li> <li>• “They don’t walk in our shoes.”</li> </ul>
Health care providers	<ul style="list-style-type: none"> <li>• “My previous doctor ... every time we would spend 45 minutes—it was like the rosary. He would start in—you know that eventually if you don’t do something then they’re going to cut your legs and they’re going to do this and they are going to do that. I almost had it memorized. He would say the same old thing.... Instead of saying how can we take care of some of these things and encourage, it was the same old thing.”</li> <li>• “One day I went into the doctor’s office and I said, ‘Close your eyes and pretend I’m not overweight, and I’m telling you I have these problems. What would you tell me?’”</li> </ul>
Others	<ul style="list-style-type: none"> <li>• “People feel like they can say anything to you ... like they can make comments like ‘You ought to watch what you eat.’ I mean total strangers, plus your well-meaning friends who say, ‘Do you think you should be eating that?’”</li> <li>• “What is it about being overweight or people know you’re a diabetic and they feel that they have to have some input into your life?”</li> </ul>



**Table 3**

## Worrying About the Present and Future

- “It’s a worry in the future because you know you have diabetes ... what’s going to happen to you if your insurance is taken away from you or you lose your job, or you retire. That’s a big worry to me and I think about it every day.”
- “Being a diabetic is so expensive.”
- “Sometimes worrying about whether or not I am going to develop complications. You know loss of limbs, things of that sort ...”
- “My grandmother has diabetes and I look at all the complications that she has ... “
- “I dread the future—the future of what happens to a diabetic.”

**Table 4**

## Bearing Multiple Responsibilities for Self and Others

- “Most women are caregivers in some form or other. We’ve never totally gone and said I’m going to go to the beauty shop; I’m going to waste my time on me. We’re taking care of everybody else around us. And we’re the last person to be taken care of.”
- “You can never ever do anything for yourself or what you really want to do, like sit down and read a book, because here’s no time. Somebody always needs something.”
- “My downfall was I was a caregiver—forgot about myself, forgot about exercising, forgot my balanced meals. I ate on the run. I didn’t sleep; I didn’t take care of myself. So I had the diabetic gene in me and it didn’t take much ...”
- “Please let me have that downtime, that 1 hour just to have my coffee and like go in the bedroom and bite a nail or something, and just relax. Leave me alone for an hour.”

**Table 5**

## Choosing to Take a Break

- “At my house, my husband is diabetic also, and once a month we pretend we’re not diabetic. We go out, we eat what we want ... and then we’re good the rest of the month. But one time a month we just splurge and we feel so much happier. You just need that, a mini-vacation.”
- “When you feel these emotions, you just want to stop, don’t deal with it any more. And that’s not a good thing, but you just kind of take a break; you want to take a diabetic break for a day, a week, a month... But your mental health helps you to be able to say, you know, I want to be normal on Friday. On Friday, I’m going to go out with my friends, I want to eat what I want to eat, and I want to drink what I want to drink. Now Saturday—I’ll be a diabetic again, but on Friday, that’s diabetic holiday.”
- “When I am in a funk, one of my favorite things is a Zinger [small dessert].... I’ll sit down and close the door and just enjoy my Zinger, drink my water, go around the block and I’ll feel better.”
- “A little bit of *denialbetes*, as I’ve heard it referred to as.”