Perceptions of Diabetes Symptoms and Self-Management Strategies:

A Cross Cultural Comparison

By

RIMMA BARKO

A manuscript submitted in partial fulfillment of the requirements for the degree of

MASTER OF NURSING

WASHINGTON STATE UNIVERSITY
Intercollegiate College of Nursing

MAY 2009
To the Faculty of Washington State University:

The members of the Committee appointed to examine the non-thesis of RIMMA BARKO find it satisfactory and recommend that it be accepted.

Chair

[Signature]

[Signature]

[Signature]
Perceptions of Diabetes Symptoms and Self-Management Strategies: a Cross Cultural Comparison

Abstract

By Rimma Barko, BSN
Washington State University
May 2009

Chair: Cindy Corbett

Purpose: Compare and contrast perceived symptoms of type 2 diabetes mellitus and self-management strategies between Russian speaking Slavic immigrant American women and non-Hispanic, non-immigrant white American women. Methods: The qualitative-descriptive study design was conducted with a convenience sample of Slavic immigrant women 50 years of age and older with type 2 diabetes (n=10), and non-Hispanic, non-immigrant white American women 50 years of age and older with type 2 diabetes (n=10).

Results: Slavic immigrants reported more global holistic symptoms of diabetes, whereas non-immigrants reported more specific physiological somatic symptoms. The non-immigrant women used more complex diabetes self-management techniques compared to the Slavic group. A lack of education and awareness of hypoglycemia may contribute to less medication adherence in Slavic immigrants, and may prevent them from being motivated to participate in diabetes self-management. Discussion and Conclusions: Health care providers caring for Slavic immigrant women with diabetes need to be aware that these women fail to recognize the symptoms of hypoglycemia and seldom acknowledge depression, although depressive symptoms are often present. Culturally congruent health care will increase adherence and improve health outcomes for Slavic immigrant women.
List of Tables:

1. Symptoms reported in Slavic immigrant women with diabetes and non-Hispanic non-immigrant white American women with diabetes
2. Self-management of diabetes in Slavic immigrant women with diabetes and non-Hispanic non-immigrant white American women with diabetes
3. Educational needs reported by Slavic Immigrant Women and Non-Hispanic, non-immigrant White women with diabetes
Introduction

Type 2 diabetes is an increasingly prevalent and costly disease in the United States and worldwide. Globally, 300 million people are projected to be diagnosed with diabetes by the year 2025—a 40% increase among adults living in the developed world and a 170% increase among those in developing countries (Costacou & Mayer-Davis, 2003; Hjelm, Mufunda, Nambozi, & Kemp, 2003). In the United States, diabetes is considered epidemic with 7.8% (23.6 million people) diagnosed with diabetes and a conservative cost of care estimate of nearly $175 billion (Reinberg, 2008). Minority populations, including immigrant populations, are disproportionately burdened by diabetes and its complications (Hosler, Melnik & Spence, 2004). In the United States (U.S.), diabetes self-management is considered a cornerstone for maintaining health and quality of life and minimizing the long-term burden and complications associated with diabetes (Funnell, et al., 2008; Norris, Lau, Smith, Schmidt, & Engelgau, 2002). However, diabetes self-management as defined by the U.S. healthcare system may be unfamiliar to immigrants, thus creating challenges to optimal diabetes outcomes.

One such population with challenges in diabetes self-management is immigrants from the former Soviet Union (FSU). In the last two decades there has been an increase in the population of Slavic immigrants in the United States. According to the U.S. Census Bureau in 2000, there were 706,242 people who spoke Russian in the United States (U.S. Census Bureau, 2000). From 1990 to 2000, the number of people of Russian or Ukrainian ancestry nearly quadrupled in Spokane, Washington (U.S Census Bureau,
2002), and the actual number of Slavic-speaking people was close to 22,000. Despite the growing local and national population of Slavic immigrants, little research has been conducted regarding their health status, practices, or beliefs. Without such data, culturally competent care cannot be delivered, potentially resulting in lower quality care and poorer outcomes (Douglas, 2000; Lavizzo-Mourey & Mackenzie, 1996; Lindenberg, Solorzano, Vilaro & Westbrook, 2001; Riley-Eddins, 2000; Salmond, 1999).

Understanding the context from which Slavic immigrants formed their health beliefs and health behaviors is essential for providing quality health care to this population. The dominant political ideology of the former Soviet Union (FSU) officially de-emphasized individual values, personal independence, and privacy (Kharkhordin, 1999). The central government assumed overall responsibility for healthcare and devalued personal responsibility for health (Dmitrieva, 2001). The FSU had a paternalistic attitude toward the general population. The system assumed responsibility for preserving people's health, but did not offer any encouragement to the individual in adopting a healthy lifestyle or health practices (Zakashanskiy, 2000). Lacking the knowledge and opportunity to pursue healthy lifestyles, the Slavic population developed a passive attitude towards managing their health.

A learned passive approach to health promotion, may contribute to the disproportionate levels of chronic illness that have been documented among Slavic adults (Miller, Chandler, Wilbur & Sorokin, 2004; Shpilko, 2006; Spokane Regional Health District, 2005). Shpilko (2006) asserts that Slavic immigrants do not recognize the importance of modifying unhealthy lifestyle behaviors as a first-line of defense against diabetes and hypertension. For Slavic immigrants with diabetes, the ability to interpret
symptoms and identify self-management strategies is an important element in the prevention of diabetic complications. For example, monitoring a blood glucose level at certain times of the day and becoming aware of symptoms of hyperglycemia or hypoglycemia is an essential skill for diabetes self-management. Immigrant women in particular have explanatory models of illness, disease, and health that differ from the dominant American society and health care system (Meleis, Lipson, Muecke, & Smith, 1998). Ongoing research and education is needed to understand Slavic women’s health beliefs and practices and to design culturally congruent interventions to facilitate their participation in diabetes self-management and healthy lifestyle behaviors.

Kleinman’s Explanatory Model of Illness provided a theoretical framework for this analysis. The model assumes that illness is culturally shaped by an individual’s experience, perception, and coping skills. These factors influence illness recognition and labeling, expectations and interpretation of disease-related signs and symptoms, and responses to disease manifestations (Kleinman, Eisenberg & Good, 1978). Kleinman states that “illness behavior is a normative experience governed by cultural rules: we learn ‘approved’ ways of being ill” (p. 252). While living under state socialism, Slavic immigrants developed a low sense of control over their lives because of limitations imposed on their personal freedom and because of the repressive psychological environment (Cockerham, 2007). The cultural environment, including a dearth of public health messages to promote healthy behaviors, endorsed a passive orientation toward health and healthy lifestyles (Cockerham, 2007). Consequently, for Slavic immigrants with diabetes, self-managing the varied and comprehensive tasks considered foundational
to diabetes care is inconsistent with the explanatory illness model of their cultural heritage.

According to Kleinman’s Explanatory Model of Illness, the majority of all self-recognized episodes of sickness are managed outside the formal health care system. A considerable part of health care is provided by variable “popular” and “folk” sectors, including self-treatment, family care, self-help groups, and religious practitioners (Kleinman, Eisenberg & Good, 1978). For the Slavic population, alternative therapies are often used prior to seeking conventional health care. Using alternative medicine in the FSU is common among nearly 60% of the general population (Shpilko, 2006). The population developed more confidence in the alternative therapy believing that “too much of any medicine can be poisonous” (Shpilko, 2006, p.334). Many of the traditional Slavic therapies, considered alternative in the United States, were officially implemented in the FSU. One of the popular self-care practices within the Slavic immigrant population in the US is the use of “Russian medications” brought by visitors. Shpilko’s (2006) findings suggest that Slavic immigrants use Russian medications because of the high cost of drugs prescribed by physicians in the US, the language barrier, and limited pertinent health information. Consequently, as asserted by Kleinman and colleagues (1978), effective disease management depends as much on the individual’s perceptions about personal, interpersonal, and cultural implications of the disease as it does on health care providers’ treatment plans.

Studies suggest that patients fail to follow through on health providers’ treatment recommendations because they do not understand or do not agree with the health care provider’s stated interpretation for their illness (Kleinman, Eisenberg &
Developing a plan of care that incorporates patients' understanding of the disease and illness processes will result in considerable improvement in disease management and treatment outcomes, as well as increased patient adherence and satisfaction (Kleinman et al., 1978).

The prevalence of communication barriers between Slavic immigrant patients and their health care providers have been noted in several previous studies (Shpilko, 2006; Lutfey & Wishner, 1999). Zakashanskiy (2000) asserts that some Slavic immigrants complain of feeling deprived of the paternalism of the Soviet medical system and perceive their American health care providers to be very distant or impersonal from their patients. Therefore Slavic immigrants have difficulty learning how to become informed and confident consumers of health care (Zakashanskiy, 2000). Slavic immigrants with diabetes thus face multiple potential barriers to controlling this disease that stem from communicating with the health care provider. Slavic immigrants often have poor diabetes control and are at high risk for developing diabetes-related complications (Hosler et al., 2001; Spokane Regional Health District, 2005).

Previous research with this sample consisted of a quantitative survey, and clinical and physical assessment of the participants (Sanders, 2006). Clinical data indicated that Slavic participants were obese, had low hip-to-waist ratios and high body mass index (BMI). Additionally, they had high blood pressure, poor lipid profiles and high hemoglobin A1C (Sanders, 2006). The quantitative survey addressed several topics influencing health which are common to all cultures: diet, physical activity, and medication management. A randomly selected sample of women (n=20) who participated in the quantitative study also participated in an interview from which the data
The reported here was collected. The purpose of this analysis was to compare and contrast perceived symptoms of type 2 diabetes mellitus and self-management strategies used by Slavic immigrant women with diabetes with those used by non-Hispanic, non-immigrant white American women with diabetes.

The objectives of this analysis were to compare and contrast Slavic immigrant women and non-Hispanic, non-immigrant white American women regarding: 1) diabetes and cardiovascular health symptoms; 2) self-management of diabetes, including dietary and physical activity approaches, and 3) perceived educational needs.

Methods

This paper focuses on qualitative sub-analysis of a mixed method study. The study methodology was qualitative-descriptive. A convenience sample of sixty women 50 years of age and older was recruited. From this larger sample, individual interviews were conducted with randomly selected Russian-speaking Slavic immigrant women with type 2 diabetes (n=10) and age-matched non-Hispanic, non-immigrant white American women with diabetes (n=10). The study was approved for human subject participation by Washington State University's Institutional Review Board.

Participants were scheduled for an interview at a time that was convenient for them. Interviews were conducted at either the participant’s home or at a university office according to the participant’s preference. The single semi-structured interview was designed to obtain participants' perspectives on health, lifestyle behaviors that contributed to health and diabetes self-management, and the motivators and barriers they encountered in trying to stay healthy and manage their diabetes.
The interview consisted of 29 open-ended questions and was conducted in English for the non-immigrant participants and in Russian for the Slavic immigrant participants. The interview questions were designed to assess participants' diabetes management beliefs and behaviors. The interview included questions such as "What does being healthy mean to you?," "What motivates you to eat the way you think you should to control your diabetes?,” “What do you do specifically to control or prevent high cholesterol?,” “What activities do you do that require walking or physical exercise?,” and “What changes would you like to make, but have not yet made to promote or maintain diabetes control?”. 

Interviews with the Slavic participants were translated into English, transcribed and checked for errors. All transcripts were independently reviewed and coded by three researchers. Common themes and categories of data were identified and compared among the researchers. Data analysis credibility was assured by the iterative process of coding and comparing the data among three researchers. Coded data showed no emergence of new themes for the last three to four interviews in each group, suggesting data saturation after the first seven interviews for both groups. Data regarding participants' perceived symptoms, strategies used for diabetes self-management, and their educational needs are the focus of this paper.

Results

Described symptoms related to diabetes

The Slavic participants reported more global holistic symptoms of diabetes than the comparison group, and described their symptoms as the way they feel, function, and are able to perform activities of daily living (Table 1). They reported more physical
complaints compared to the non-immigrant group: For example one participant said, “My back really hurts, I go to a massage,” another described having “part of my intestine taken out, and not only did my diabetes get worse, but I developed heartburn,” “I do not have any strength, and I feel very, very tired,” “I feel as if there is something floating in my eyes.”

The majority of Slavic participants complained of “feeling weak” and “feeling tired.” Although they experienced these symptoms, they remained confused about their etiology. One Slavic participant stated: “I have this shaking feeling if I eat or do not eat. I do not know what it is. It feels as if I am shaking, in the middle of my body, and it happens more during the night.” None of the participants verbalized an understanding of the signs and symptoms of hyperglycemia or hypoglycemia. Several of the participants described their diabetes symptoms in detail stating, “Fatigue begins like this: your head starts spinning, your hands start to shake;” “When I get too fatigued, I feel terrible.” One participant explained how she links a specific blood glucose reading with a symptom: “When it (blood glucose level) gets to 200, I feel the difference, I feel sick.”

The Slavic participants did not express feelings of depression, but they made several statements such as, “I always felt bad. I did not want to do anything”, “I have no motivation to work or do anything. It is a feeling as if you do not want anything”, “I cannot walk as much, sometimes I have a big headache or I am feeling weak” (Table 1). Several of the participants reported taking a nap in the afternoon because they developed generalized weakness. Another participant described not wanting to get out of bed at all.

Non-Hispanic, non-immigrant white American women reported physiological somatic symptoms that were more specific than the global holistic symptoms reported by
many of the Slavic immigrants (Table 1). One participant explained, “I went and played Scrabble and didn’t eat before I went to bed. At one o’clock (in the morning) I woke up. I thought I was passing out.” These participants were more aware of the manifestations of their chronic illnesses. In addition, symptoms stemming from efforts to control blood glucose were sometimes identified as negative and contributed toward undermining further efforts. One participant stated, “I do not like to be bringing it (blood sugar) down. I do not like being down in the normal range because I feel shaky.”

Non-Hispanic, non-immigrant white American women readily reported symptoms of depression or depressive mood compared to Slavic participants. These women were more likely to recognize their symptoms as depression; for example, “I was depressed” and “lately I’ve been really depressed and the doctor had put me on antidepressants.”

Described self-management of diabetes and health-related symptoms

Most Slavic participants stated that they tried to adhere to the diabetic diet (Table 2). They participated in a diabetic education class with a Russian translator and understood the meaning of the healthy diabetic diet: “When I took some courses on diabetes, I started to hold back on eating certain foods;” “I act a little more careful with food.” Occasionally they deliberately modified their diet, eating traditional high fat foods that made them feel good, and brought back memories of their homeland:

I love bacon, I eat bacon sometimes, occasionally. You know, sometimes I just want it so bad, that I think my heart will start talking soon. I think that if I eat it once in a while, it is not so bad.
Although two out of ten Slavic participants stated that they were aware of "certain" foods they had to limit, participants did not mention the importance of healthy diet options such as an increase in vegetables, and decrease in simple carbohydrate and high fat consumption.

Walking was reported as an important aspect of diabetes self-management for the Slavic participants. Eight out of ten Slavic participants reported walking as their main physical activity. One of the participants explained: "I walk and walk until my legs start to hurt." Another stated she refused to use public transportation, deliberately walking from home to grocery stores or to church:

*I walk home from church. Even if my friends or family offer me a ride, I tell them only at night. At night I am scared to walk, but in the morning I walk everywhere.*

*Yesterday, I walked to the clinic.*

Slavic participants did not emphasize the importance of monitoring and treating their blood glucose levels. Blood glucose was checked when they "feel sick" or when they "eat something sweet." One participant reported at length about how often she checked her blood sugar:

*If I feel bad, I will check it (blood glucose) right away. When I feel fine, I do not tend to check it. When it gets to 200, I feel the difference. I feel sick, so I will lay down and rest for a while.*

Slavic participants expressed frustration dealing with multiple health problems. One respondent explained the complexity of her diabetes and related symptoms: "My legs started to hurt very bad, I lost a lot of my eyesight, and my glasses do not help anymore. I have developed a very big weakness, and a very high blood pressure."
Several Slavic participants inquired about herbal supplements that could be used to treat hyperglycemia. For example, one participant stated, “I want to know about herbs because my doctor gives me pills, but they are all chemical based. They cause me to either sleep too much, or not enough. My stomach and liver started to hurt.” As compared to the non-Hispanic, non-immigrant white American women, the Slavic immigrant women more frequently discussed the importance and/or the desire for herbal or naturopathic treatments.

The majority of Slavic participants understood the importance of providers’ recommendations for medication and blood glucose monitoring to control diabetes. However, being uninsured was a barrier to adhering to these recommendations for several of the women as exemplified by the following: “I drink some of my husband’s pills, but not regularly. I think that is why my blood sugar is so high now, because I do not drink the medication regularly.” Another participant explained her reasons for not checking her blood glucose level regularly as due to lack of medical supplies; “sometimes I don’t have enough lancets”.

Non-Hispanic, non-immigrant white American women reported more active blood glucose monitoring as compared to the Slavic women (Table 2). They monitored their blood glucose level more consistently and were able to recognize hypoglycemic and hyperglycemic symptoms and their importance in effective diabetic management. One participant stated “It’s 24 hours a day. You wake at midnight and feel, “Oh, I’m sweaty. I’ve got night sweats. Something’s happening so you leap out and do the blood sugar and all that type of thing. It’s a constant.” Another participant explained the importance of diabetic management in her daily life, “the first thing I do when I get up in the morning is
that I check to see what my blood sugar level is.” Another participant stated, “I check my blood glucose level often. I usually take it in the morning around 7,10, 12, 3, 5, 10 and at the bedtime. That is my schedule and I try to stick to it.”

The non-Hispanic, non-immigrant white American women verbalized more details about how they manage their diet to enhance a healthy way of living, including using food substitutions such as sweeteners. They mentioned the avoidance of junk food and fast food in their diet, and stated they are more compliant and self-disciplined with their diets since being diagnosed with diabetes: “Diabetes is a discipline disease, that is all it is. It is constant, it is every day, every hour. It is a constant disciplinary job”. The non-Hispanic, non-immigrant white American women also had more sophisticated diabetes self-management techniques as evidenced by their use of compensatory mechanisms. For example, one woman mentioned eating less in the morning when she planned on dining in a restaurant later in the day. Another participant stated that when she wants to cheat on her diet and eat a greater portion of meat, she compensates the next day by eating more vegetables.

Identified diabetes educational needs

The majority of the Slavic participants stated that they enjoyed the diabetes education classes they had participated in, and they were very appreciative of the Russian speaking educator for explaining diet portions and dietary choices (Table 3). Several of the participants expressed concern about their diabetes management and verbalized frustrations with the symptoms of hypoglycemia, which they called a “weakness or shakiness.” One participant stated: “I do have this feeling of nausea all the time. Especially in the morning;” Another expressed her frustrations stating, “I get tired; I am
just sitting here and starting to sweat. I get very hot and weak.” One participant was very concerned about her vision: “I feel as if there is something floating in my eyes.” Some Slavic participants inquired about cholesterol medication: “Do they have medications for cholesterol?” Other participants questioned whether there is a chance to “lessen the diabetes.” “I do not understand how to lessen the diabetes. I try. In Russia we ate a lot more.” The Slavic participants made little mention of future goals related to diabetes self-management. In contrast, the non-Hispanic, non-immigrant white American women verbalized fewer educational needs, but many future goals such as making healthy dietary choices, taking their medications on a regular basis, and continuing to work on their weight loss goals.

Discussion

Slavic women who migrate to the U.S. may follow an Explanatory Model of Illness based on perceived reliance on the government for care with little personal control; this mindset likely hinders Slavic immigrants’ ability to embrace the knowledge and behaviors that are foundational to diabetes self-management promoted in the U.S. Understanding basic concepts of diabetes management is difficult for this population due to their view of the illness, their beliefs about what should be done to improve it, and their lack of understanding of how to manage symptoms. This leads to less assertive approaches to their own healthcare. Zakashanskiy (2000) explained that assertiveness and being informed of their healthcare and medical services is a novelty for Russian immigrants.

Data from our study reflected barriers to diabetes control noted in other studies with Slavic immigrants: less formal education (70% of our Slavic participants had less
than a high school education), lower income, and poorer diabetic self-management and outcomes (Hosler, Melnik & Spence, 2004) including use of herbals and an apparent low adherence to taking medication. In our study, Slavic women also reported fewer resources for diabetes self-management, including medications and blood glucose testing materials.

Our findings suggest that for Slavic women there is a disconnect between perceived symptoms and reported self-management. The majority of Slavic participants identified diabetes symptoms as “being shaky.” They did not closely monitor blood glucose and were not apparently aware of the manifestations of diabetes signs and symptoms; for example, hyperglycemia and hypoglycemia. Song and Lipman (2008) explain that as individuals become more aware of their diabetes disease state, they become more adherent to a management plan that helps prevent problems from becoming worse.

In this study, Slavic participants inquired about the use of herbs and naturopathic ways to control diabetes. Domarew, Holt, and Snitoff (2002) explained that many Slavic immigrants bring herbs and cultural beliefs about their use into the United States, and participate in herb practices they have known while living the FSU (Shpilko, 2006). Understanding the prevalence of herb use is important when discussing diabetic self-management with members of the Slavic population. Because of the prevalence of such practices health care providers are encouraged to specifically inquire about Slavic patients’ herbal use. When doing so, it is imperative for health care providers to be aware of the potential for cross-cultural misunderstandings. Health care providers’ non-judgmental recognition of Slavic immigrants’ alternative medicine practices will enhance
patient-provider relationships and improve Slavic immigrants’ confidence in the provider. Consequently, patients may be more willing to discuss self-care strategies with their providers and avoid possible side effects resulting from non-adherence or interactions between self-administered and prescribed medications and treatments.

Members of the Slavic population did not state they were depressed; nevertheless, they described symptoms consistent with depression. Depression is prevalent in ethnic minorities, particularly immigrants, and is a barrier to effective diabetes management (Anderson & Christison-Lagay, 2008). Depression affects adherence to an effective diabetic management plan, and may worsen health outcomes. Miller and colleagues (2006) described older Slavic immigrant women as having a greater risk for depression because of their diabetes and immigration status. Mental problems including depression tend to be ignored in the FSU because acknowledging them would have resulted in major social penalties. Mental health was further stigmatized because the dominant Soviet ideology and political philosophy held that people who were involved in activities not approved by the Soviet government were to be considered as insane, detained in a psychiatric hospital, and administered psychiatric drugs (Duncan and Simmons, 1996). When questioned by their health care providers Slavic immigrants frequently do not provide information regarding their family history of psychiatric illness or past psychiatric treatments. Health care providers need to be aware of the incidence of undiagnosed depression in this population, trained in assessing for depression, and then able to work with patients and families to develop culturally appropriate treatment plans that may include social support and increasing physical activity.
The majority of Slavic participants reported walking as a main form of exercise. Fannell, et al. (2008) discuss the importance of an individualized plan for each patient and their goals for diabetes self-management. Anderson & Christison-Lagay (2008) report how particular self-management interventions, such as walking every day, taking stairs, getting an exercise videotape, parking far from the store, and walking with children, can improve glycemic control. American Diabetes Association found health improvement in people with type 2 diabetes if they participated in 45 minutes of walking three times a week (American Diabetes Association, 2009; Walking Towards Better Health, 2006). Health care providers need to reinforce this type of physical activity within Slavic population and educate them on the benefits of walking and positively effected blood glucose levels.

The findings from this study provide opportunities to inform health care professionals about cross-cultural similarities and differences in perceived symptoms of type 2 diabetes mellitus, self-management strategies, health issues related to diabetes, and educational needs in Slavic immigrant Americans versus non-Hispanic, non-immigrant white Americans. Slavic participants experienced unrecognized symptoms of hypoglycemia and possible undiagnosed symptoms of clinical depression. Non-Hispanic, non-immigrant white Americans were more aware of the physical manifestation of their chronic illnesses, and they openly reported the symptoms of their depression.

The majority of the Slavic participants acknowledged that their previous participation in the diabetes education helped them better manage diabetes. Despite these educational opportunities, they continued to have basic deficits in diabetes knowledge and self-management activities. Slavic participants did not report any future diabetes
management goals. Non-Hispanic, non-immigrant white American women expressed fewer educational needs and more expectations about continuing to improve dietary choices, medication adherence, and persisting toward weight loss goals.

The limitations of this study include the small sample size, the older age and the sex of the participants which may not be representative of the full scope of diabetes self-management experiences and health-related practices occurring in this group. The participants' current diabetes knowledge level was not assessed, limiting our ability to discern the influence of self-management knowledge on the findings. The role of medication management and its effect on symptoms of hypoglycemia or hyperglycemia was not explored. Finally, the instruments used in this study to seek reporting of diabetes perceived symptoms and self-management strategies did not measure the participants' self-reporting bias.

As increasing numbers of Slavic people, many of whom have diabetes immigrate from the FSU to the US, further research will help promote improved diabetes management in this population. Based on the framework of culturally formed illness beliefs and our findings of Slavic women immigrants' diabetes symptom experiences and self-management behaviors, it is likely that standard diabetes education classes are ineffective for this population. Slavic immigrants require educational strategies that allow them to integrate their health beliefs with those of Western medicine.

There is a need for more foundational instruction to clearly link patient behavior and lifestyle with impacts on diabetes control, related complications, and overall health. In addition, structured practice and feedback to enable Slavic patients to interpret the outcomes of self-management activities are required. Our findings indicate that Slavic
immigrant behaviors are more likely to be related to their cultural heritage, knowledge deficits, and/or lack of resources, rather than to indifference or intentional non-adherence. Health care providers who are aware of these barriers to diabetes self-management among Slavic patients have an opportunity to explore culturally congruent methods to improve self-management and diabetes outcomes. More research is needed to investigate Slavic immigrants’ use of alternative therapies. Our findings and those of others suggest alternative therapies are commonly used and that prudent, culturally congruent health care for Slavic immigrants necessitates assessing for such use and incorporating it into care plans. Health care providers should be cognizant that an underlying source of a Slavic immigrant’s numerous physical complaints may be psychological and indicate a need for mental health screening. Culturally congruent health care will increase adherence and improve health outcomes for Slavic immigrants.
References


Table 1

Symptoms reported in Slavic immigrant women with diabetes and non-Hispanic non-immigrant white American women with diabetes

<table>
<thead>
<tr>
<th>Slavic Immigrant Women</th>
<th>Non-immigrant, non-Hispanic, White Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>I always felt bad. I did not want to do anything</td>
<td>My back and my knees are my worst problem</td>
</tr>
<tr>
<td>When it (blood sugar) drops, I get these tremors, and I have weakness. I have no motivation to work or do anything</td>
<td>I do not like to be bringing it (blood sugar) down. I do not like being down in the normal range because I feel shaky</td>
</tr>
<tr>
<td>I feel very tired, my hands are tired</td>
<td></td>
</tr>
<tr>
<td>When it (blood glucose level) gets to 200, I feel the difference, I feel sick</td>
<td>at one o’clock (in the morning) I woke up I thought I was passing out</td>
</tr>
<tr>
<td>My blood sugar ‘fell’ but I have not felt any better. I actually think I have started to feel worse...I have developed a huge weakness</td>
<td>I have real numbness in my feet</td>
</tr>
<tr>
<td>I do have this feeling of nausea all the time, especially in the morning</td>
<td>I get so depressed sometimes</td>
</tr>
<tr>
<td>I go for massage, my back really hurts. If I eat something in particular, I will feel fatigued and really bad</td>
<td>the eyes are having a lot of problems</td>
</tr>
<tr>
<td>I walk outside and at home, because when I sit or lie down, it hurts to get back up, and my legs have started to become edematous</td>
<td>I was depressed</td>
</tr>
<tr>
<td>When I get too fatigued, I feel terrible</td>
<td>lately I have been really depressed and the doctor had put me on antidepressants</td>
</tr>
<tr>
<td>Fatigue begins like this: your head starts spinning, your hands start to shake</td>
<td>I have no appetite</td>
</tr>
<tr>
<td>I always felt bad. I did not want to do anything</td>
<td>I would get really tired after i ate ,I would want to sleep instead of be active</td>
</tr>
<tr>
<td></td>
<td>if I eat a lot of sugar, I start hurting my stomach</td>
</tr>
</tbody>
</table>
Table 2

Self-management of diabetes in Slavic immigrant women with diabetes and non-Hispanic non-immigrant white American women with diabetes

<table>
<thead>
<tr>
<th>Slavic Immigrant Women</th>
<th>Non-immigrant, non-Hispanic, White Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>I check my blood glucose when I feel sick</td>
<td>I try to keep my blood sugar under control. Sometimes it goes up and I try to make it go down</td>
</tr>
<tr>
<td>I check my blood glucose when I eat something sweet</td>
<td>I take my insulin regularly, and I check my diabetes four times a day</td>
</tr>
<tr>
<td>I check it everyday and try to get into habit of doing that</td>
<td>The first thing I do when I get up in the morning-I check to see what my sugar is</td>
</tr>
<tr>
<td>I check it twice a day, morning and night</td>
<td>I check my blood glucose level often. I usually take it in the morning around 7, 10, 12, 3, 5, 10 and bedtime. That is my schedule and I try to stick to it</td>
</tr>
<tr>
<td>I check it sometimes and my sugar is 230, 180, 150</td>
<td>Diabetes is a discipline disease. It is constant. It is every day, every hour.</td>
</tr>
<tr>
<td>Last night my sugar was 70, and I ate a piece of a chocolate for that</td>
<td>I do not check it everyday. I would say I do it at least four or five times a week</td>
</tr>
<tr>
<td>I drink some of my husband’s pills, but not regularly</td>
<td>I use glucometer usually four times a day. Sometimes at night when I get up in the night I wonder whether it is really low and I am having another attack</td>
</tr>
</tbody>
</table>
Table 3

Educational Needs Reported by Slavic Immigrant Women and Non-Hispanic, non-immigrant White women with Diabetes

<table>
<thead>
<tr>
<th>Slavic immigrant women</th>
<th>Non-Hispanic, non-immigrant white American women with diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I took some courses on diabetes, I started to hold back on eating certain foods</td>
<td>I would like to find out more why I have this fluctuation and be more cautious of it instead of eating too light of a meal or too light of a lunch</td>
</tr>
<tr>
<td>They told me what to eat more and what to eat less off; to hold back from eating too much sugar</td>
<td>I do not diet anymore. Years ago the doctors used to give you a diet. Now it is &quot;do not eat this, switch to this&quot;. How do you know what to switch? I eat very little bread</td>
</tr>
<tr>
<td>I do not know enough about the normal portions I should be eating</td>
<td>The doctors have never ever told me not to use salt</td>
</tr>
<tr>
<td>I do not know much about diabetes</td>
<td>I would like to lose weight. That is my goal for this year</td>
</tr>
<tr>
<td>I would like to know more about diabetes, diet and regimes, and medications</td>
<td>I desperately need to lose the weight for a number of health reasons</td>
</tr>
<tr>
<td>I act a little more careful with food, eat vegetables</td>
<td>More exercise would help a lot. I am still 65 pounds overweight</td>
</tr>
<tr>
<td>Show me how much potatoes I should put on my plate</td>
<td>I think probably it would be better if I lost weight</td>
</tr>
<tr>
<td>Do they have medications for cholesterol?</td>
<td></td>
</tr>
<tr>
<td>Is there a chance to &quot;lessen the diabetes.&quot;</td>
<td></td>
</tr>
</tbody>
</table>