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Patient and Healthcare Provider Views of Depressive Symptoms and Diabetes in American Samoa

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Abstract

High type 2 diabetes prevalence, associated with recent cultural changes in diet and physical activity, characterizes the U.S. territory of American Samoa. Comorbid diabetes and depression rates are high worldwide and contribute to negative diabetes outcomes; these rates have not been assessed in American Samoa. In this study, six focus groups (FGs) were conducted with 39 American Samoan adults with diabetes; questions on perceptions of diabetes and depressive symptoms were included. Thirteen healthcare staff interviews were conducted to gain further insight into diabetes care in American Samoa. FGs and healthcare staff interviews were translated, transcribed, and entered into NVivo 8 to facilitate analysis. Thematic analysis showed that diabetes patients saw depressive symptoms as directly contributing to high blood sugar. However, these symptoms were rarely mentioned spontaneously, and providers reported they seldom assess them in patients. Many patients and healthcare staff believed the best ways to respond to feelings of depression involved relaxing, leaving difficult situations, or eating. Staff also discussed cultural

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stigma associated with depression and the importance of establishing rapport before discussing it. In conclusion, healthcare providers in American Samoa need training to increase their awareness of depressive symptoms' negative impact on diabetes management in patients who screen positive for depression. All providers must approach the subject in a supportive context after establishing rapport. This information will be used for cultural translation of a community health worker and primary care-coordinated intervention for adults with diabetes in American Samoa, with the goal of creating an effective and sustainable intervention.

Keywords

Depression; Type 2 diabetes; American Samoa; health care interventions; health beliefs

Type 2 diabetes rates are increasing worldwide, contributing to serious health problems and increased mortality rates. In the Pacific Islands, the occurrence of type 2 diabetes is especially high. In the U.S. territory of American Samoa, a small cluster of islands in the Western Pacific, 21.5% of adults had type 2 diabetes in 2002 (DiBello, et al., 2009). This is much higher than the adult prevalence of diabetes in the less developed Pacific nation of Samoa (11.3%; DiBello, et al., 2009) and in the U.S.A. (10.7%; NHANES, 2003-2006), and is closer to rates in other urbanized Pacific Island nations, which can range from 15% to as high as 34% (McCarty & Zimmet, 2002).

Depressive symptoms and major depressive disorder are common, and can have severe consequences, in people with diabetes. A meta-analysis of depression and diabetes rates (Anderson, Freedland, Clouse, & Lustman, 2001) concluded that across studies, people with diabetes are twice as likely to be diagnosed as depressed compared to non-diabetic samples. Higher rates of depression in diabetes patients persist over time and are associated with higher HbA1C levels (Richardson, Egede, Mueller, Echols, & Gebregziabher, 2008), and depression can increase mortality rates in diabetes patients (Katon, 2008). Depression can worsen self-care behaviors (Golden, et al., 2008), and can have more direct physiological effects, such as lowering insulin sensitivity (Lustman, Penckofer, & Clouse, 2007; Pan, et al., 2008), which together increase the risk of developing diabetes and the complications from comorbid disorders. Depression intervention trials have had limited effect on improving glycemic control (Fenton & Stover, 2006; Wang, Tsai, Chou, & Chen, 2008), possibly due to the lack of tailored treatments that address depression in the context of illness.

While the diabetes prevalence in American Samoa continues to rise (Keighley, et al., 2007), rates and characteristics of depression there have never been assessed. However, comorbid depression and diabetes is a cross-cultural problem. Depression rates in diabetes were assessed across 17 diverse countries (Lin, et al., 2008), and the frequency of depression was slightly higher in adults with diabetes than without, reflective of a pooled odds ratio of 1.38. Odds ratios across the range of countries studied were not significantly different; the high prevalence of depression in diabetes patients is similar across different world populations.

Although the problem of depression and diabetes is widespread, depression does not manifest identically across cultures. In many non-Western cultures, depression is perceived as a largely physical, somatic problem (Halbreich, et al., 2007; Kleinman & Kleinman, 1985; Yeung, Chang, Gresham, Nierenberg, & Fava, 2004). This is important in the context of diabetes comorbidity, since somatic symptoms could be attributed to either disorder. Cultural factors can also influence whether patients self-identify as depressed and seek treatment. One U.S. study found that 85% of primary care visits documenting depression involved non-Hispanic white patients, who may be more likely to raise the issue than black

and Hispanic patients (Sclar, Robison, & Skaer, 2008). Chinese Americans diagnosed with Major Depressive Disorder did not spontaneously report depressed mood, and many of them did not know what to call their disorder despite knowing that something was wrong (Yeung, et al., 2004). The degree to which a culture is collectivist, emphasizing community rather than the individual, can also affect perceptions of depression. In studies comparing Asian collectivist cultures with Western, individualistic ones, Asians were less likely to discuss depression with a provider due to privacy concerns (Jorm, et al., 2005), and more likely to rely on unspoken rather than explicit social support (i.e. talking with a friend; Kim, Sherman, & Taylor, 2008).

Little is known about depression in American Samoan culture, but it has become a more pressing issue in the past 30 years due to an increased number of suicides there, mostly among young men (Rubenstein, 1992). Based on health record data from 1990-1991, the suicide rate was 18 per 100,000 people, and 34 per 100,000 men. This rate was among the highest in the Pacific Islands, which overall were found to have higher rates than many geographic regions (Booth, 1999). In 2003, the suicide rate for 15 to 19-year-olds was 43 out of 100,000 (Center, 2005). While no studies have examined depressive symptoms in American Samoa, previous studies have more broadly examined emotions, physical, and mental health. American Samoa is a collectivist culture in which people often rely on families for support (Holmes, 1987; Mageo, 1998; Poasa, Mallinckrodt, & Suzuki, 2000). Shaming by family members can lead to distress, acting out, and suicide (Howard, 1986), family can be a strong source of both support and stress (Elstad, Tusiofo, Rosen, & McGarvey, 2008), and distress can be expressed through aggression and anger. In a sample of immigrant Samoans in New Zealand, cultural adjustment, drug and alcohol use, disruption of family relationships, and financial obligations were all seen as contributing to mental illness (Tamasese, Peteru, Waldegrave, & Bush, 2005); it is likely that similar stresses may appear in American Samoa. Tamasese et al. did not address the role of health problems in their study, but health may be an additional factor contributing to distress, especially since those interviewed perceived mental, physical and spiritual aspects of the self as overlapping and inseparable (2005). Across cultures, certain somatic symptoms of depression can be difficult to distinguish from symptoms of physical illness (Katon, Lin, & Kroenke, 2007), however they can be teased apart using standardized depression instruments. Understanding and addressing depressive symptoms in American Samoan diabetes patients is important; emotion is likely to play a role in health, especially given the global evidence of the relationship between depression and diabetes and the existing evidence that anger and stress worsen health through raising blood pressure in American Samoans (Bitton, McGarvey, & Viali, 2006).

Diabetes is an urgent problem in American Samoa, and diabetes interventions must be rapidly disseminated in order to halt the increase in metabolic disease. It is unclear whether depressive symptoms are a barrier to diabetes treatment in this population. The analyses presented here are part of a larger project in which qualitative data were gathered from diabetes patients and healthcare staff in American Samoa, as formative work for cultural adaptation of a community health worker (CHW) and primary care-coordinated intervention study. The larger qualitative study agendas included barriers and facilitators to diabetes self-management and feedback on CHW roles. For this paper, we focused on agenda items related to depressive symptoms and its relationship to diabetes. This information will be incorporated into the CHW's role to support diabetes self-management.

Methods

Six focus groups were conducted with 39 diabetes patients in American Samoa, and 13 individual interviews were conducted with healthcare staff. Staff perspectives were sought

to indicate whether and how they see depressive symptoms among diabetes patients and how they respond. Patients were selected from the diabetes registry at the Tafuna Family Health Center (TFHC), a primary care health center operated by the American Samoa Department of Health, and designated as a community health center by the U.S. Bureau of Primary Health Care. Focus groups used a convenience sample, but recruitment aimed to obtain a balance of genders, ages, and distribution across villages in the catchment area; a recruitment script was used. Focus groups were conducted from January to April 2008. All 13 Health Center staff were interviewed between July and September 2007. Participants completed a consent form, and ethical clearance was granted by the Brown University Institutional Review Board (IRB) and the American Samoa Department of Health IRB.

Participants

Table 1 presents the socio-demographic description of focus group participants and Table 2 describes the healthcare staff. The mean age of focus group participants was 59, with slightly more females than males participating. Participants had a wide range of formal education levels, from zero to 16 years. Reports on the number of years with diabetes ranged from just having found out to having diabetes for 47 years; however, some participants may have gone several years with diabetes before being diagnosed, therefore actual years with diabetes is unknown. Healthcare staff covered a range of professions including nurses, physicians, outreach workers, and one administrator with a clinical background. They had a wide range of education levels and years of experience working with diabetes patients.

Measures and Procedure

Data collection—Healthcare staff interviews were conducted in English by the Brown University field director working in American Samoa. Focus groups were conducted in Samoan by American Samoan project staff trained by one of us (RR). Research agendas for the two types of interviews were very similar. Instead of scripting word for word questions for focus groups, investigators provided intent statements to identify objectives of the discussions, and American Samoan facilitators used these statements to guide their creation of culturally and linguistically valid questions and probes. Some of the questions listed to guide the patient and staff discussions concerned depressive symptoms, including “what role does diabetes play in stress and depression,” and “what are the sources of support available?”

After a few focus groups were conducted, certain questions were eliminated due to saturation of new responses, and to allow more time for other questions that required further probing. The focus groups occurred in the evening and dinner was provided. During the focus groups, participants raised some specific questions about their diabetes care; facilitators recorded these questions and addressed them in front of the group after all agenda items were covered.

Data Analysis—Focus group transcripts were translated from Samoan to English by the facilitator and project staff in American Samoa. Two authors (RR and MH) and a research assistant then reviewed the translations, highlighting passages that were unclear, and these passages were reexamined in the original Samoan by Samoan research staff for clarification.

Qualitative analysis was facilitated with NVivo 8.0 software (QSR International, Doncaster, Australia). For this particular analysis, only passages relating to depressive symptoms were coded. Coding was done by the first author (RH), who had five years of training and experience in assessing depressive symptoms. Passages were considered to be related to depressive symptoms if either (1) the word depression was used in the participant response or the question immediately preceding it, or (2) the word depression was not used, but the

symptoms being described are strong indicators of depression according to the DSM-IV criteria (e.g. one participant states, “Some days I just sit and think about why is it so hard for me to feel hungry in the morning so I can take my medication,” which relates to loss of appetite and difficulty getting going). It is assumed that these comments may be referring to either Major Depressive Disorder or to depressive symptoms, as diagnostic criteria for depression were not assessed. Passages relating to depressive symptoms were further coded into different themes. For the focus groups, in addition to being coded by theme, all passages were classified based on their contexts, including: (1) whether the participant was speaking about personal experience with depression versus speaking more generally about it, (2) whether the word “depression” was used in the passage or not, and (3) whether the statement was said in response to a question about depression, or spontaneously. We analyzed data to determine whether there was any relationship between demographic characteristics, thematic codes, and the context variables listed above. The relationship between demographic information and thematic codes were examined for healthcare staff interviews as well.

Results

This section covers the major depressive symptom-related themes seen in the focus group and staff interview data. Two themes are the same for both groups, while others are different. Demographic patterns of responses were not found unless otherwise stated; no demographic patterns were found for the staff interviews, possibly due to the low number of participants per demographic category among staff.

Focus Group Themes

The relationship of depressive symptoms and diabetes—Sixteen comments (14 participants) were coded on patient perceptions of the relationship between depressive symptoms and diabetes. In eleven comments, people stated that they saw depressive symptoms as a potential cause of diabetes or high blood sugar. Some people referred to these symptoms as a problem of the “heart,” which can then make you sick. In four comments, people referred to the opposite causal direction, of diabetes contributing to feelings of depression due to the difficulties of managing illness. In one comment, a participant suggested that family financial obligations can contribute to both diabetes and feeling depressed.

Depression is a very hard thing when we think about it. I think it all starts from the heart because of heart pain and your heart beats very fast when there is something you're worried about.

Maybe it could've been that I'm living alone and there is nobody to talk to... I think it is really true when you are overly stressed then your blood sugar will go high.

When the mind worries about things, then it starts to cause pains in the body... Then you get home and you get more mad. What's the cause? The cause is the things that are born in the heart [*loto*]... Many things can happen in the family and that can trigger problems of the body in those who are diabetic.

Managing depressive symptoms—Many participants with diabetes referred to their own strategies, or their advice to others, for coping with feelings of depression. The coping techniques discussed fell into four categories: Making yourself relax and be happy (11 comments/8 participants), escaping or getting away from the situation (6 comments/5 participants), eating (2 comments/2 participants), and being around other people (2 comments/2 participants). Talking about “relaxing” was often stated as advice to others, or by people who said that they were happy and had forgotten their worries or stressors. In

addition, two participants mentioned talking about feelings with others, including one who stated he would be willing to discuss them with his doctor, but had never been asked about it.

Yes, that is the kind of treatment I'm using right now for my husband when I know that his blood sugar goes up. Sometimes I tell him not to think about *falavelaves* [family functions] and business too much. If you take away all of those things and be happy, things will be just fine.

My way is to get away from what's bothering me or giving me headache... It's better for me to stay on the mountain and look down on the road to clear up my mind because I will be so depressed and I can't do anything to deal with it.

What I do is go and relax... I just want to be alone so that no one is bothering me and if I don't eat all day I don't care... I get so depressed at times when I have to go through this every day, I just want to live alone not with other people.

When I am done eating ice cream I start roaming around town and then I go back home and everyone is happy again.

Yes I can [discuss depression] if Dr. ____ asks me about it, but the thing is he doesn't have any questions for me.

As explained in the methods section, focus group data were also coded based on context. There were no findings of note regarding whether comments about depressive symptoms were spontaneous versus asked. There were fewer comments in which participants used the word "depression" (7 times) compared to discussing the concept without using the word (14 times). Regarding self-specific versus more general comments about depressive symptoms, women more often talked about symptoms in the first person (9 comments by women, 3 by men), while women and men were about equally likely to refer to them in more general statements (5 comments by women, 4 by men).

Healthcare Provider Interview Themes

The relationship of depressive symptoms and diabetes—Three healthcare staff (one doctor and two nurses) specifically discussed the way they perceive the relationship between depressive symptoms and diabetes. Two of them stated that they would be concerned that symptoms of depression would interfere with diabetes care. A third clinician saw financial stressors, but not health problems, as contributing to depression.

[Depressed people] don't like to do anything. They just want to eat, sleep, eat, sleep. They don't go out. They don't like doing anything... Maybe that's why they get high blood sugar.

[In someone with diabetes and depression,] we're concerned about the illness for this person. If she's depressed, she's going to neglect herself... That's where the hygiene also comes in.

Managing depressive symptoms—Seven healthcare workers (15 quotes) referred to the ways they would advise patients to treat depressive symptoms. Some of these comments were similar to those of the focus group participants, including telling them to "relax" or to escape difficult situations by going to the beach. Others advised talking to a professional or a family member about depression. One healthcare worker pointed out that, unfortunately, a current method of coping with depression was to commit suicide. Two healthcare workers specifically mentioned antidepressant medications, stating they guessed that some people would be unwilling to take them.

Mostly they don't depend on those kind of drugs, that control for depression. Not unless that person really needs it.

We tell, 'you know nowadays there are so many problems facing us but sit back and relax or go somewhere behind your plantation and stay there until whatever worrying you or giving you headache passed away.'

This lady she calls me and says, 'doctor... I'm depressed about having nobody at the house...' Although I don't have enough training in mental [health], I can refer them to someone who can help them... But other than that... the provider should be the number one person that should be emphasizing helping her out and getting the people [involved], especially the family members in the household, but if you don't have any family around, that's difficult.

Frequency of seeing depressed patients—Four healthcare providers (4 quotes) stated that they have seen few or no patients who are depressed (although they also frequently stated that they did not ask about depressive symptoms). Two providers stated that they see depressive symptoms in people who are grieving or who are concerned about family or financial problems. One clinician stated that he had seen one case of severe depression during his career.

I don't see any identified... you know like when somebody says, "Oh this is part of their care." You know, depression.

Stigma and cultural differences—While neither focus groups nor provider interviews specifically asked about stigma, five healthcare providers (10 quotes) referred to the stigma surrounding depression and the idea that depression does not occur in American Samoan culture. In some cases, providers saw depressive symptoms as related to education, stating that only non-Samoans or educated Samoans would admit to such feelings or know how to seek help appropriately, or that Samoans may not be responsive to direct questioning, which can be seen as more aggressive. Other providers saw depression as a Western concept that either does not occur, or is not discussed, in American Samoa. Finally, many providers commented on cultural stigma, stating that depression is taboo, embarrassing, or an indication that someone is crazy.

People that do approach are the ones that are more educated, the ones that have learned if you see somebody in trouble, don't ignore it. Try to reach out and help them. But the majority of the time... they try to stay out of people's business.

If they're very smart people, educated people, they'll turn to the... doctor, the priest, the *feife'au* [church pastor], or a friend.

Sometimes I can see from the English, you know, the *palagi* [white person's] point of view, sometimes your question is too direct. You know with the Samoans, they beat around the bush.

Depression, I guess it's considered the disease of the whites. Depression is something that you don't see much in the Samoans, and I guess it's because they are very good at hiding it. Or it's not an acceptable thing, or any emotional, mental illness is considered something that they hide.

They never say, "Oh I'm depressed, cause I have this or whatever..." To me, its like a taboo.

Discussion

Relationship Between Depressive Symptoms and Diabetes

As discussed in the introduction section, the actual relationship between diabetes and depression or depressive symptoms is complex, with each condition potentially worsening or contributing to the other (Lustman & Clouse, 2007). Focus group participants speak about both possible causal relationships. Based on their comments, it does not appear that the complexities of this relationship discussed in the introduction are understood; many participants seem to assume a direct causal relationship of one direction or the other. The perception of a direct relationship may be related to the Samoan linguistic concept of emotion. In Samoan, *lagona*, or “feelings,” originate in the *loto*, which is loosely translated as “heart” but is differentiated from the heart as a physical organ and is seen as a “quasi-organ” (Gerber, 1975). The *loto* is used as a “comprehensive term for personal thoughts, feelings and volitions” that is resistant to social conditioning (Mageo, 1998). One Samoan term translated as “depression” by our staff is literally translated as “worries of the heart (*loto*),” which is seen as more intense and distressing than “worries of the mind,” translated as “stress.” The linguistic concept of *loto* could potentially blur the distinction between physical and emotional functioning for Samoans, which may have contributed to focus group participants extending this blurring to the relationship between emotion and diabetes-related physical function.

This perspective differs from the more complex view of the healthcare staff, who discuss depressive symptoms contributing to suboptimal self-care, indirectly affecting health. The clinicians on average have more years of education than the focus group participants, and they are more likely to have had Western-influenced health education, which could contribute to their perspective. Discussions of the bi-directional relationship between depressive symptoms and diabetes could be helpful for some diabetes patients who see only one direction, or who may place too much emphasis on stress and depression as directly causing their diabetes, without attention paid to other causal factors such as diet and exercise.

Managing Depressive Symptoms

Focus group participants and healthcare providers discuss several effective techniques for managing depressive symptoms, which are similar to those recommended in Western countries. Many participants discuss “relaxing” or “just being happy,” which can be seen as cognitive and behavioral strategies for self-care. Being with others, or escaping stressful situations and going for a walk, can be considered behavioral activation strategies, which are often effective at alleviating depressive symptoms (Jacobson, et al., 1996). The only maladaptive strategy discussed in the focus groups was eating in response to depressive symptoms; this may be commonly done in many cultural groups (Macht & Simons, 2000; Wansink, Cheney, & Chan, 2003), but is a worrisome coping strategy, especially in a diabetes population, and could be addressed in an intervention.

Healthcare workers added strategies to those mentioned in the focus groups, including talking to a family member, priest or doctor. These techniques, especially doctor visits, may be important for people whose symptoms are more severe, provided they can be presented in a way that does not sound too forceful and direct, and that avoids the stigma of mental health treatment discussed below. Two clinicians mentioned antidepressant medications and were unsure of their acceptability within the population, which suggests that prescribing medications should occur in the context of extensive psychoeducation for patients and families. No clinicians mentioned formal psychotherapy as a treatment option, which has

been proven effective in many instances; the lack of trained therapists in American Samoa may be linked to the lack of discussion of this option.

Stigma, Cultural Differences, and Frequency of Seeing Depressed Patients

Healthcare providers' reports of the relationship between stigma, education level and depressive symptoms are crucial, and influence all other comments that were coded in this study. American Samoa is currently undergoing socio-economic and cultural changes, with younger generations having more education than their elders, which can lead to tensions between traditional Samoan views of peoples' roles and responsibilities and those from the West (Baker, 1986). Based on reports of healthcare providers, the more Western concept of depression as an illness is rarely used in American Samoa, and is only known among those who are more educated or, according to one clinician, among the younger generation. These stigma-related comments were not heard at all in the focus groups, which consisted of older people with fewer years of education who may therefore be unaware of these issues. Healthcare providers were more aware of the discrepancy between the Western, clinical definition of "depression" and the way the words for depression might be used in American Samoan culture, while the focus group participants did not appear aware of depression as a clinical condition. This study attempted to understand American Samoan perceptions of depressive symptoms while keeping in mind the lack of awareness of clinical depression there by coding passages as relating to symptoms in instances when the word "depression" was not used; these symptoms are often experienced cross-culturally even without the label "depression" (Gada, 1982).

In a noteworthy gender difference, women were more likely than men to refer to their own depressive symptoms while discussing personal experience. The qualitative nature and sampling methods of the focus groups prevent conclusions about this gender difference. However, the imbalance raises important questions that should be investigated in future studies, such as whether women more commonly experience symptoms of depression, or, as has been shown in some studies of other cultures (Fogel & Ford, 2005; Halter, 2004), there is stronger stigma attached to depression in men than in women. One piece of evidence that may point to the stigma-related explanation is the fact that almost all suicides that occur in American Samoa are carried out by young men, suggesting that men do experience some form of depression, and that there may be shame associated with such feelings (Rubenstein, 1992).

Limitations, Contributions, and Future Directions

This study has various limitations. First, focus group qualitative analysis was done in translation, which may have missed certain subtleties of the Samoan language. There was also the linguistic limitation of the lack of a standard word for clinical depression in Samoan. Our staff, who translated the transcripts, used consistency and judgment to determine when the word "depression" was used, but there may be instances in which participants were unable to linguistically differentiate between the Samoan words or concepts for depression and stress. There is also evidence of a perceived link between stress and diabetes in American Samoans (Elstad, et al., 2008), and it is possible that at times, participants were using the concepts of "stress" and "depression" interchangeably. In addition, the interviews and focus groups were not designed to exclusively focus on depressive symptoms, but covered a range of diabetes-relevant topics. Finally, we did not include any measures of depression for focus group participants, and therefore we do not know if any participants met criteria for clinical depression; we therefore focused our analyses on depressive symptoms and not on Major Depressive Disorder, which may have provided different information.

While one study has looked at perceptions of depressive symptoms in Samoans living in New Zealand (Tamasese, et al., 2005), no previous study has examined either perceptions of depressive symptoms in American Samoa, or their overlap with diabetes there. Understanding the ways in which American Samoans perceive these problems and their relationship will help direct future interventions and help to make treatment more acceptable. Future studies should use the information gathered here to assist in developing assessments and interventions for both depressive symptoms and diabetes. At the time of this study, no Samoan language depression assessment tool had been validated; we have since translated the PHQ-9 and are investigating its validity and reliability in this population, which will be valuable for learning about depression in American Samoa. A randomized controlled trial of a community health worker (CHW) diabetes intervention is also currently underway, and one section of the intervention addresses depressive symptoms, for participants who report them. Based on the information gathered here, participants are taught about the concept and symptoms of depression, its relationship to diabetes, and possible treatment options. What we have learned about stigma, about the perception of a close connection between these problems, and about preferred self-care methods for treating depressive symptoms have helped to inform the intervention's presentation of materials and training of CHWs. The CHWs implementing the intervention have also been trained in assessing the urgency of depressive symptoms and when to seek additional professional assistance.

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Table 1
Focus group participant demographics

Demographics	Number	Percentage
Gender		
Male	17	44%
Female	22	56%
Age		
30-39	3	8%
40-49	3	8%
50-59	12	31%
60-69	12	31%
70-79	8	20%
80-89	1	2%
Education (years)		
0-8	9	23%
9-12	17	44%
13-16	5	13%
Missing	8	20%
Years with diabetes		
0-4	14	36%
5-9	10	26%
10-19	8	20%
20+	5	18%
Missing	2	5%

Table 2
Healthcare provider demographics

Demographics	Number	Percentage
Gender		
Male	3	23%
Female	10	77%
Profession		
Outreach worker	3	23%
Nurse (LPN/RN)	6	46%
Physician	3	23%
Administrator	1	8%
Age		
35-44	2	15%
45-54	7	54%
55-64	1	8%
Missing	3	23%
Years treating patients with diabetes		
0-4	2	15%
5-9	4	31%
10-19	3	23%
20+	4	31%