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Factors Influencing Management of Type 2 Diabetes Among Vietnamese Seniors in Worcester, MA

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FACTORS INFLUENCING MANAGEMENT OF TYPE 2 DIABETES AMONG VIETNAMESE SENIORS IN WORCESTER, MA

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Abstract:
This study examines the role of the social and physical environment in influencing type 2 diabetes management among the Vietnamese senior community. The researchers employed a concurrent mixed methods approach, utilizing both quantitative and qualitative instruments. Eleven diabetics participated in individual interviews and seven non-diabetic caregivers comprised the focus group. The study results suggest that in the study sample, the most important factors in influencing management include factors in the physical environment, such as safety and location, as well as social factors, including individual and community influences and the doctor-patient relationship. The findings of this study suggest further research is needed and a community-level intervention designed to support prevention and management within the Vietnamese population.

Keywords: *Chronic disease management, type 2 diabetes, Vietnamese, elderly*

Background:
An analysis of the literature regarding type 2 diabetes suggests that the actual causes of the disease are still unknown, but likely determinants have been identified. Such determinants include diet and exercise, genetics, neighborhood level socioeconomic status, and mental health. Individual risk factors include increased body mass index, age 4 5 years or older, physical inactivity, poor nutrition, hypertension, smoking, stress, and alcohol use, among others (Schootman et al. 2010). As mentioned, genetics are a factor, but non-genetic risk factors appear to be the primary causes. An individual approach to diabetes management has not proven successful and the known literature calls for a population level analysis to increase proper management of the disease.

Clinicians typically focus their efforts—for both type 2 diabetes and one of its major risk factors, obesity—at the individual level. The individual level approach does not seem to be effective at reducing the rate of type 2 diabetes across many parts of the population indicating a community level approach is needed (Lagerros et al, 2012). Individual behavior is directly influenced by community level structures and therefore a community level approach is necessary (Lagerros et al, 2012). Future efforts to improve prevention and management should, therefore, be focused at the family and community level and include both diabetes management and prevention.

Beliefs about the origins of diabetes and proper management vary among cultures. There are also discrepancies among the age of diagnosis, which varies across cultures for a variety of reasons. For example, the Diabetes Prevention Program (DPP) found that among Asian Americans, age, as opposed to body mass index (BMI), is a more accurate

predictor of risk for type 2 diabetes (Edelstein, 2005). This cultural disparity exemplifies how diabetes prevention and management needs to be tailored to the community.

Social and environmental conditions at the population level, such as neighborhood socioeconomic status and perceived safety within one's residential area may play a role in type 2 diabetes management (Schootman et al, 2010). Studies have examined socioeconomic status in relation to the mental health status of diabetics and found that health is influenced by location and environment regardless of individual socioeconomic factors. For instance, perceived safety is a major factor that may account for differences in health in various locations, especially if people do not feel safe exercising in their neighborhood (Baum et al, 2009).

Furthermore, the walkability of sidewalks influences the health status of individuals (Lagerros et al, 2012). If people feel unsafe in their neighborhood and decide not to engage in physical activity, this may lead to a more sedentary and unhealthy lifestyle that can ultimately increase their risk for obesity and type 2 diabetes. Given that neighborhood factors have the ability to facilitate either healthy or unhealthy behaviors, these factors often carry more weight than individual choices (Booth et al, 2005).

The effect of neighborhoods on health is most apparent among racial minorities and other disadvantaged groups due to additional and more prominent stressors (Gee and Payne-Sturges, 2005). This exposure-disease paradigm, therefore, may partially explain the variations in health across different types of neighborhoods (Gee and Payne-Sturges, 2005).

Individual approaches to addressing diabetes management have proven unsuccessful, especially among minority communities (Devlin et al, 2006). Exploring social determinants of diabetes is a beginning step in addressing the root causes of the disease. In a study conducted by Devlin et al, focus groups distinguished that there was a loss of health among minority groups, attributed to the adoption of the American lifestyle, a distrust of the medical system, and an overwhelming emphasis on the importance of spiritual healing (Devlin et al, 2006). Participants demonstrated that there is a gap in knowledge of health care providers and a lack of culturally responsive diabetes education, thereby recommending that communities need more of both. Despite this, studies have found patterns in which once participants overcome the initial shock of their diagnosis, they are more likely to accept their condition and learn about it than those who deny their condition entirely (Lawton et al, 2008).

There is a gap in type 2 diabetes literature specifically relating to Asian-Americans. One of the few studies focusing on Asian-Americans was conducted in 2000 in California, the state with the largest population of Vietnamese residents. The researchers found that many participants were unaware of the causes of diabetes or ways to manage their disease. The study used a 50 item interview guide and produced the following three findings; participants related worry and sadness with diabetes, a relation between perspiring less in the United States than Vietnam, and a general opposition to insulin (Mull et al, 2001). The study also found a lack of general knowledge regarding the

disease and poorer management in women as a result of being less educated.

The identified gap in the literature suggests further studies pertaining to the Asian-American population are needed. This study aims to narrow the gap in understanding by testing conventional type 2 diabetes management hypotheses to see if they hold true. In particular, this study looks at management from an individual and community level and at the factors in the physical environment that impact management.

Methods:

This research project utilized a concurrent mixed methods approach in order to collect data about general type 2 diabetes and neighborhood barriers to managing the disease. Concurrent mixed methods implies that the qualitative and quantitative data were collected at the same time (Creswell, 2009).

Study Sample

Vietnamese senior citizens with type 2 diabetes were recruited to participate in this research project, from seniors who frequent the Worcester Senior Center and/or are members of the Vietnamese Catholic community at Our Lady of Vilna Church in Worcester, MA (refer to Table 1 for participant breakdown). The first method of recruitment employed was convenience sampling. The Senior Center hosts a weekly Vietnamese community group meeting and the Vietnamese Catholic Community meet regularly every Sunday for Mass and community gathering. The research team worked with a program facilitator at both locations to recruit type 2 diabetics for individual interviews. The second method of recruitment used was snowball recruiting to select participants for the focus group. Interview participants were asked if any of their non-diabetic friends or family members were interested in participating in a focus group.

Table 1: Study Sample

An outline of individual interview and focus group participants.

	Male	**Female**	**Total**
Individual Interviews	6	5	11
Focus Group	2	5	7

Instruments:

Quantitative

This study adapted questions from two previous health studies to create the quantitative instrument used, to ensure validation. Questions from the English Longitudinal Study of Aging self-exam and a used by Auchincloss et al. 2009 were converted to a scale to be answered in terms of strongly agree or strongly disagree. The instrument created mainly addressed the neighborhood and safety factors that might influence diabetes management. It assessed the perception of neighborhood safety, the presence of sidewalks, and how conducive the neighborhood is to physical activity. The instrument was also used to gather demographic information such as age, years spent in the United States, and education level.

Qualitative
The qualitative section of the individual interviews included a total of thirty-six questions, often containing sub-questions, designed to examine factors in the social and physical environment that influence diabetes management. The questions were drafted by the researchers following a literature review to determine areas where further research was needed. Three pilot interviews were conducted which allowed the researchers to restructure questions based on the participants' interpretation of the translated question. The major themes of the individual interview questions were medical care, neighborhood social environment, physical activity, diet, neighborhood physical environment, and concluding questions. If participants lived in a complex, such as a nursing home, assisted living facility, public housing, or a large apartment building, they were asked questions pertaining to this environment.

The qualitative section for the focus group contained ten questions aimed at understanding caregiver and family member diabetes management support. The focus group questions also probed participants to discuss diabetes awareness and education in the Vietnamese community.

The interview questions, quantitative questionnaires, and consent forms were translated in Vietnamese in order to cater to the elderly Vietnamese participants who speak little to no English. The interviews were conducted in Vietnamese and participants' responses were immediately translated to English and recorded by a second researcher. The same method was employed for the surveys and the focus group. The participants read and responded to the quantitative survey silently, except if the participant was illiterate or preferred to be read the questions and answer choices. The interviews were also tape recorded to ensure that translations were accurate and verbatim, which was crucial for further analysis.

Data Analysis:

Quantitative
To analyze the quantitative data, Statistical Product and Service Solutions (SPSS) software was utilized. Descriptive statistics were used to analyze both nominal and ordinal data. The quantitative instrument was compiled from multiple previously validated surveys and was used to test their accuracy.

Qualitative
This study used a modified grounded theory for data collection and analysis (Sarkis, 2011). A literature review was conducted prior to the study, which gave the researchers an understanding of the current research and helped shape the objectives of this study. The results were related back to the existing literature to suggest future research after being analyzed.

To analyze the qualitative data, this study employed axial coding and inter-coder reliability. At least two team members coded each interview to ensure consistent coding across interviews (Creswell, 2009). Axial coding was used to disaggregate and identify the core themes during the qualitative data analysis (Creswell, 2009). The quantitative

and qualitative data were compared for consistency in responses in order to support the findings of this study.

Ethical Considerations

Confidentiality was guaranteed by assigning our participants random numbers to de-identify all data. Our research team found no ethical concerns relevant to our study. We stressed to participants that their participation was voluntary and that we were conducting research for a project at Clark University. We obtained informed consent from each participant, and emphasized that their identities would remain anonymous, as would the material we gathered from the interviews. Participants were also informed that the data collected would be shared with the Worcester Senior Center and other health institutions and social services, in addition to the research team and their course professors, in order to improve services to the Vietnamese and other Asian populations.

Results:

Quantitative

Of the research participants who completed the quantitative questionnaire following the individual interviews (N=11), 54.5% have equal to or less than an 8th grade education (refer to Table 2). Participants have been in the United States an average of 15.73 years with values ranging from 3 to 27 years. Eight participants live with family members, one lives alone, and two indicated "other" as their living situation.

The majority of participants, 54.5%, feel it is easy to walk places in their neighborhood on a scale of very easy to very difficult. However, two participants feel their neighborhood offers many opportunities to be physically active based on a scale of many opportunities exist to none at all. This contradicts the previous statement, making it difficult to assess their physical environment. Only one participant felt that vandalism and graffiti were a big problem in their neighborhood on a scale of being a big problem or not at all (refer to Table 3 for response breakdown).

Table 2: Educational Attainment

A breakdown of participants' highest level of education completed (standard deviation of 6.3).

Level of education	**Frequency (%)**
8th grade or less	6 (54.5)
Some high school	1 (9.1)
High school grad or GED	3 (27.3)
Some college/technical	1 (9.1)
Total	11 (100)

Table 3: Quantitative Survey Sample
Sample responses to quantitative survey represented as a frequency and percent.

Questions from Survey Instrument	**Agree** Frequency (%)	**Neutral** Frequency (%)	**Disagree** Frequency (%)
People would be afraid to walk alone in this area after dark	2 (18.2)	6 (54.5)	3 (27.3)
Most people in this area can be trusted	5 (45.5)	2 (18.2)	4 (36.4)
People in this area are friendly	6 (54.5)	3 (27.3)	2 (18.2)
Litter and rubbish are a big problem in this area	2 (18.2)	2 (18.2)	7 (63.7)

Qualitative
The core themes that emerged from the analysis included factors in the physical environment such as safety, the presence of sidewalks, and the geography of a location in addition to social factor including the relationship between individual and community level influences and perceptions of the doctor-patient relationship. Table 4 depicts shows the axial codes and core themes utilized by the researcher during the coding process. The themes that emerged from the coding are explored in the discussion section.

Table 4: Axial Codes and Core Themes
List of axial codes and core themes that emerged during the coding process.

Axial Codes
Exercise
Eating habits
Information / Lack of Information
Self-Knowledge
Preventable
Doctor as Expert
Self-Care
Support
Emotions
Avoidance
Talking about Diabetes
Programs
Safety
Sidewalks
Gap

Core Themes
Individual Interviews and Focus Group
Role of Individual in Diabetes Management
Role of Family in Diabetes Management
Role of Doctor in Diabetes Management
Safety
United States vs. Vietnam
Further Research
Preventable
Emotions
Religion

Discussion:
The individual interviews and focus group concluded the factors that influence diabetes management among Vietnamese seniors included factors in the physical environment, such as location and safety, and factors in the social factors, such as individual and community influences and the role of the doctor. These findings support the

implementation of a community level approach of prevention and management aimed at diabetics and their family members.

Physical Environment

The individual interviews and focus group provide evidence that geographic location and the perception of neighborhood safety have an effect on participants' ability to manage diabetes, particularly through exercise. However, the influence of factors in the built environment was not as strong as anticipated.

Participants mentioned differences in climate as playing a role in the onset of diabetes. Vietnam is located along the equator, so the climate is much hotter than the United States, especially compared to New England. In Vietnam, it is approximately 100 degrees Fahrenheit year round, so inhabitants are constantly perspiring. In Worcester, MA, the climate is drastically different; there are four seasons that range from freezing temperatures to hot weather. During the colder seasons, participants indicated that they are often stuck inside, whereas in Vietnam they are able be active and go outside.

> *Vietnam is a hot country and we're more active there, so diabetes isn't much of a problem. Now, we live in North America and it is much colder here, so we just eat and sit around in the house watching TV.*

In the Vietnamese culture, it is believed that when one sweats, bad toxins are secreted out of the body. Thus, sweating is considered a contributing factor to good health. According to the majority of individual interviews and the focus group, the participants believed that they were much healthier in Vietnam since they were sweating more than in the United States. One participant described why they believe they developed diabetes in the United States, stating, "*In Vietnam, we eat less and release more [sweat]. In the US we eat more and release less [sweat]."* A non-diabetic participant from the focus group suggested, "*Vietnam is a hot country... that's why when we sweat, our body is more neutral so we don't have any cholesterol or high blood pressure problems.*"

The perception of safety also influences how often an individual goes outside for exercise, which is imperative to both preventing and managing diabetes. Initially, the operational definition of safety utilized by the researchers was centered on perceptions of safety in regards to neighborhood crime, violence, and hostility. The participants, however, answered all questions pertaining to safety in regards to physical safety of the built environment, including conditions of sidewalks, presence of hills, and other obstacles that could make it challenging for an elderly individual to move about a neighborhood. This could have been the result of mistranslation or attributed to their awareness of their physical condition.

> *It's just, in my neighborhood there are bad streets even though there's pavement, so the sidewalks make it safer, but the neighborhood itself is still dangerous since there are a lot of hills. That's why it's harder to run and it's more exhausting.*

When participants did mention a sense of feeling unsafe in their neighborhood, they would preface their answer with a contributing factor that explained their discomfort. For instance, one participant indicated that they do not go out walking at night because their children warned them not to do so.

> *I never walk at night because my children said it is not safe to go out at night. That's why I do not walk at night at all.*

This sense of avoidance may be attributed to the sense of not wishing to discuss sensitive topics because it is viewed as prying, as participants have noted as a reason the Vietnamese community does not discuss diabetes.

The presence and conditions of features in the built environment such as sidewalks, parks, and green spaces influenced participants' perception of safety. Study participants who perceived these features to be well maintained were more likely to walk outside or engage in exercise in the neighborhood. However, it was recognized that living in the United States in general resulted in a less active lifestyle.

> *We don't have any sidewalks or parks where we can walk during the day. That's why we can't do any activities during the day.*

Additionally, in Vietnam, it was common for inhabitants to be involved in a very labor-intensive work life that revolved around the climate and the geography, such as working long hours in the rice fields or pig farms, despite their age.

> *When I lived in Vietnam, people who live in the countryside, who are 60-70 years old, are still doing farming work.*

Career options in the United States involve less manual labor than in Vietnam, and so participants embraced more of a relaxed daily routine. In Worcester, MA, the most common job options open to Vietnamese immigrant seniors tended to be assembly line jobs in factories. The participants indicated that they were getting less routine physical exercise after immigrating to the United States simply because in the United States, physical exercise is not incorporated into daily tasks and obligations and need to be scheduled separately.

Overall, the lifestyle transition following the immigration from Vietnam to the United States has significantly influenced diabetes management. Participants' lifestyles were adjusted to the drastic climate change, physical features of their neighborhood, and job options. These changes ultimately influenced how our participants managed their diabetes. As a result, many participants in this study believed that these physical factors influenced their diabetes.

Social Environment

Role of the Individual and Family in Diabetes Management

Diabetics and caregivers differ in how they perceive the burden of management. Previous

research indicates that community approaches are most successful in managing type 2 diabetes, and caregivers would agree, however, the diabetics interviewed felt strongly that management responsibilities were personal. Participants in the focus group in particular expressed a fear for future generations, which indicates that they are thinking at the community level. One participant described diabetes as a "societal" problem, making the connection between the unhealthy foods people consume and the diseases they develop as a result.

> *For me, this is not only a suggestion for our community but for the entire world... In America, there are so many people diagnosed with diabetes and obesity, but that's because their pastries and cakes are so sweet. This is a societal problem; if we can't change the way we're making our food, we can't change the obesity and diabetes problems.*

The participants made such profound and accurate statements throughout the interviews, even with little understanding of the actual disease. An overwhelming majority of the seven non-diabetics in the focus group brought up fears regarding their grandchildren developing diabetes in the future. Many responded that they tell their grandchildren to eat fewer sweets, warning them that if they continue to eat sweets they will eventually develop diabetes. One quote in particular captures both this worry and lack of knowledge.

> *I have talked with my grandchildren and reminded them to eat less candy. I told them that if you eat lots of candy, you might develop diabetes. They asked me, what is diabetes? I answered, 'whoever has diabetes will have to suffer the rest of their life'. I only know to say that much because I don't know much about it.*

Many make suggestions for their families and mail them pamphlets about diabetes, even though they have little knowledge of the disease themselves. This alludes to a sense of fear that exists among the older population for future generations, yet they lack the knowledge necessary to properly inform them.

All of the participants in this study lived in Vietnam and experienced a time when food was scarce. Some mentioned the scarcity of food was due to war times or simply being unable to afford enough food for their families. In the United States, poor quality food is readily available. Participants in the focus group point towards this as a basis for their fear of diabetes for future generations. However, dietary changes were not perceived as important in the individual interviews. Many Vietnamese diabetics simply eat less rice and smaller portions, but they are still eating the same foods as before they were diagnosed. Additionally, family members of diabetics are not changing their diet either, despite their risk of becoming pre-diabetic.

> *I need to eat only 70 percent of what I used to eat. I used to eat until I was full, but now I can't anymore. Right when I start feeling full, I stop eating.*

As mentioned, dietary changes are not a major concern for the diabetics interviewed due

to their individual mentality. This study found that within this subset of the population, individuals bear the burden of management and feel it is solely their responsibility. Vietnamese diabetics do not discuss their disease with others because they feel it is ill mannered. According to a Vietnamese saying cited by a participant, "showing good things, hiding bad things," helps explain why many Vietnamese are not forthcoming with their disease.

Although the general findings from the individual interviews and the focus group conclude that Vietnamese elderly diabetics receive limited social support, it should be noted that some diabetic participants did in fact have supportive caregivers in their lives. Male diabetics seemed to experience management assistance. Two participants mentioned the role of their wives in diabetes management by stating, "*My wife cooks catering to my diabetes needs,"* and, *"my wife- if my wife wasn't around I'd be dead."*

Often, Vietnamese elderly diabetics are able to exchange management tips with each other. This form of support within the Vietnamese diabetic community supports the notion that among diabetics, management tips are accepted by individuals other than the doctor.

> *[My diabetic friends..] When we talk, it usually involves questions such as "how did you get it and how do you eat?" Other times they'll show me how to eat! They'll cook for me so that I can see it! So I'll imitate the way they cook... I learn new things from people everyday!*

Many diabetics feel that they are more knowledgeable regarding diabetes management and therefore do not discuss it with the general Vietnamese population, even family. The majority of participants in the individual interviews and the focus group had little understanding of the disease, so discussing the disease with others would not yield much new information. For those who accepted their diagnosis, they did their own research and found ways to manage their diabetes.

> *What I do is I take all the information I've gathered collectively and make it work for me. That way, I'll know how to better manage my diabetes.*

Even if participants did not mention a family member actively assisting in diabetes management through diet and exercise, many participants did note that they are able to discuss their condition with other diabetics. Two participants mentioned, "*I met another woman here who is in the same situation as me and she doesn't know what's going on either. So I guess I'm not the only one,"* and, *"my brother and I have diabetes so my brother helps me the most."*

Individuals interviewed do not always adhere to the doctor's recommendations or fully disclose how they are managing their diabetes. They do, however, feel they are doing what is best for themselves and do not need help in terms of management. This may be due to a lack of current services; if more services were available to the Vietnamese population they may accept support in management. In addition to the role of the

individual and family, the doctor's role in diabetes management is also crucial.

Role of the Doctor in Diabetes Management

There were many discrepancies among participants' responses in individual interviews and focus groups, which highlight the gap in diabetes self-management and the perception of support from caregivers and other family members. One dominant theme that emerged from both the individual interviews and the focus group was the role of the doctor in diabetes management.

Family members and caregivers who participated in the focus group consistently viewed the role of the doctor in diabetes management very highly. Participants noted that one of the reasons the Vietnamese community does not discuss diabetes is because it is a medical issue, and the doctor is the only person who is privileged to this conversation.

> *As I mentioned before, people will only talk with their medical doctors about their health problems and will not talk with family or friends. For example, whenever someone asks me, I just tell them straight to their face, 'Are you a doctor?' because it is none of their business*.

The focus group participants also elevated the status of the physician and viewed the doctor as the expert on all medical issues. The family members and caregivers indicated that all health information must be derived from the physician because they have the expertise knowledge in prevention and treatment, due to their years of medical training.

> *Some of us mentioned that we've made some changes such as cutting down sugary food and exercising more. We do it because we listen to our doctors. When we talk with our friends or family members, they might say, 'You are not my doctor, so you have no expert knowledge to be able to advise me'.*

This high regard for medical doctors in the Vietnamese culture stems from a trust in them. Focus group participants mentioned that most people with a chronic disease see a doctor once a month, and therefore a strong relationship is formed between the patient and the doctor.

> *Their doctor should go over and discuss the patient's diabetic condition. The patient will listen to them faithfully. In our culture, we trust our doctors, so we listen to our doctors more than anyone else.*

Findings from the individual interview contradict this opinion that all medical information must be delivered by doctors. Communication between patients and physicians is often strained. Many diabetics explained in the individual interviews that they did not always disclose health related information to their doctors.

One individual interview participant mentioned that their children buy alternative herbal medicine for diabetes from a Vietnamese doctor in California. The diabetic takes this medicine, which has a positive impact on blood sugar levels. However, the participant

does not disclose this information with their primary care physician.

> *He does not know that I also take the diabetes medication that my children sent me because I hide it from him and don't say anything about it.*

Because of the positive impact of herbal medicine on blood sugar levels, the doctor does not prescribe the participant any diabetes medication.

> *The doctor said that I don't need to take any medication - just exercising more will help. But I buy medication [from a Vietnamese doctor in California] and I take two pills in the morning and two pills in the evening. For that reason, whenever I go see my family doctor, he says that my blood sugar is okay and that I don't need to take any diabetes medication.*

Another diabetic participant also mentioned that they failed to disclose medical information to their doctor. The participant mentioned that they started taking herbal medication, which seemed to have a positive impact on blood sugar levels.

> *After I took herbal medication for 90 days, my blood sugar became very stable. At that time, my family doctor stopped my current Western medication because he thought I didn't need it anymore.*

This participant also took both herbal medication and western medication simultaneously, as do many Vietnamese elderly diabetics. When asked whether the diabetic took both medications at the same time, they responded, *"Yes, because at that time, I was afraid that my diabetes was getting worse, so I took two different medications."*

Although opinions about doctor-patient relationship varied, both diabetics and family members in this study concluded that community members are not able to provide management support to diabetics, even if they have been trained and educated in proper management techniques. Community members feel as though they are not able to provide management support to diabetics because doctors are viewed as the knowledgeable experts on all medical issues. Because of this, caregivers often feel stunted in their ability to lend support.

> *We cannot help them make any changes we are not doctors. The only way to help them make changes is by having their doctors instruct them to do.*

The research concludes that family members and caregivers views of the medical providers as experts is inconsistent with the findings from the individual interviews. Participants in the individual interviews implied that diabetics often do not communicate effectively with doctors and may choose to withhold information from their doctor.

Note: Quotes were corrected for the sake of clarity.

Conclusion and Recommendations:

Previously, individual level interventions for type 2 diabetes management have not been successful. However, this study concludes that among Vietnamese senior diabetics, management responsibility falls on the individual. To alleviate the burden of management, education at the community level is needed. Educating the general Vietnamese population on prevention and management of type 2 diabetes would create a stronger support system for the diabetic individual, and tackle prevention simultaneously.

Since the general Vietnamese population is undereducated regarding type 2 diabetes, information distributed at the community level could encourage more discussion. It is difficult to have a conversation regarding a topic when people are not familiar with it and thus, more general information could foster deeper conversation in the Vietnamese community. This would also help unite the differing views of management between caregivers and diabetics.

Study participants concluded that there are not enough services tailored specifically for the Vietnamese community outside of medical practitioners to aid this population in proper diabetes management. We learned through the focus group in particular that many get their information from Vietnamese news channels or magazine ads, not necessarily reputable sources. Better resources in Vietnamese are needed locally to prevent people from following ill advice. Programs aimed at improving management in the Vietnamese community should be facilitated by medical professionals with the involvement of a medical advocate or community health worker, possibly a Vietnamese diabetic

Following this study's findings, the researchers suggest that a Vietnamese medical social worker holds consistent office hours at the Worcester Senior Center. During these appointments, members of the Vietnamese community have the opportunity to seek medical advice. This would provide additional medical support outside of regular visits with their primary care physician. This would also serve as a resource for caregivers to learn more about diabetes prevention and education.

Limitations of Study:
Due to a short time frame, the research team's ability to collect and analyze a large amount of data was limited. This limited time altered the number of participants interviewed. Additionally, the primary language spoken by the majority of the participants in the study was Vietnamese. Although two researchers speak Vietnamese fluently and served as translators, the language barrier was certainly a limitation. With that said, the transcripts reflected the translations of the participants' responses. Even with the best translation, there may be slight differences between the responses and translations. Furthermore, the views expressed in our study may not be representative of all Vietnamese diabetics in Worcester and other communities. Nevertheless, the trustworthiness of the research was guaranteed by ensuring confidentiality and ensuring that the research adheres to the standards for ethical conduct.

Conflicts of Interest:
The researchers state that there are no major conflicts of interest. It should be noted, however, that a number of interviews were conducted by Thuha Le, was the Executive

Director of the Southeast Asian Coalition in Worcester, MA, who has a professional relationship with many of the participants. Additionally, Kristina Nguyen is another member of the Vietnamese community.

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