



International Journal of Nursing and Health Care Science

Research Article

Hamilton DJ, et al. J Int J Nurs & Healt Car Scie 01: 2023-179

Lived Experience of Homeless Individuals with Type 2 Diabetes Mellitus

Dorothy Jean Hamilton, PhD, RN^{1#}, Denice Sheehan, PhD, RN, FPCN², Joan Thoman, PhD, RN, CNS¹

Submission Date: 03 January, 2023

Accepted Date: 11 January, 2023

Published Online: 16 January, 2023

^{1#}College of Health, School of Nursing, Cleveland State University, Ohio, USA

²College of Nursing, Kent State University, Ohio, USA

How to cite this article: Hamilton DJ, et al. (2023) Lived Experience of Homeless Individuals with Type 2 Diabetes Mellitus. Int J Nurs & Healt Car Scie 03(01): 2023-179.

#Corresponding author: Dorothy Jean Hamilton, PhD, RN, Clinical Associate Professor, College of Health, School of Nursing, Cleveland State University, 2121 Euclid Avenue, Cleveland, Ohio 44118, USA

Abstract

Type 2 Diabetes Mellitus (T2DM) is a chronic disease. Chronic Disease Self- Management (CDSM), Diabetes Self-Management Education (DSME), and other Chronic Disease Self-Management Programs (CDSMPs) help to decrease complications from chronic diseases and improve the quality of life among those experiencing these diseases in the general population. The incidence of chronic disease is high among the homeless population; furthermore, they experience an increase in morbidity and mortality rates from these diseases. The literature related to homeless individuals with diabetes and the management of their diabetes in the homeless environment is limited. The aim of this study was to explore the lived experience and interpret the experiences reported by persons with diabetes who live in a homeless environment. The study provided the evidence to increase the understanding of how people with diabetes can self- manage their disease in a homeless environment. This study was a qualitative study using the principles of interpretive hermeneutic phenomenology.

Keywords: Diabetes self-management education; Diabetes self-management support; Homelessness; Type 2 diabetes mellitus

Abbreviations

CHO	:	Carbohydrates
CDSM	:	Chronic Disease Self- Management
CDSMPs	:	Chronic Disease Self-Management Programs
DSME	:	Diabetes Self-Management Education
DSMES	:	Diabetes Self-Management Education and Support
HIV	:	Human Immunodeficiency Virus
T2DM	:	Type 2 Diabetes Mellitus

Introduction

Type 2 Diabetes Mellitus (T2DM) is a growing problem in the United States and throughout the world. Research studies have shown that diabetes self- management strategies, such as blood glucose monitoring, blood pressure control, weight control, and eating a proper diet, will assist in controlling symptoms related to diabetes and preventing complications from diabetes- including complications such as kidney disease, heart disease, blindness, loss of limbs, and strokes [1-3]. Most of these studies were conducted in the general population and not among the homeless population [1,2]. According to the literature, the incidence and prevalence rates of chronic diseases including T2DM is higher in the homeless population compared to the general population [4-7]. Homeless individuals with T2DM may not have the resources to properly manage their diabetes to control their symptoms and prevent or delay complications from diabetes. This phenomenological study described the lived experience of homeless individuals with diabetes and obtained an increased understanding how homeless individuals manage their disease in the homeless environment.

Purpose of the Study

Research studies conducted in the general population have demonstrated that diabetes self-management strategies used by individuals with diabetes help to decrease long-term complications of the disease, such as blindness, kidney disease, stroke, and peripheral vascular disease [1,2,8-10]. Diabetes self-management in individuals with diabetes living in a homeless environment has not been clearly examined in the literature.

There is a gap in the literature regarding the self-management skills and abilities of homeless individuals with diabetes related to their diet control, weight reduction, glucose monitoring, medication management, and follow-up appointments with health care providers to ensure proper management of their disease. Research studies have provided the evidence that diabetes self-management behaviors and support help to improve management of the disease and decrease the complications that may occur from diabetes. The best approach for helping patients with diabetes in the general population is self-management. Although a considerable amount of information regarding the self-management of diabetes is available for the general population, it is not clearly understood how homeless individuals with diabetes can self-manage their disease. The American Diabetes Association Diabetes Care [2] does address the homeless population as a vulnerable group and provides some recommendations for the management of diabetes among the homeless. However, it is not completely known how homeless individuals with diabetes manage their disease.

Review of the Literature

Incidence of Chronic Disease

There are discrepancies related to the definition of chronic diseases and how the information is reported to different local, state and federal agencies, CDC in partnership with the Council of State and Territorial Epidemiologists, and the National Association of Chronic Disease Directors developed chronic disease indicators. These indicators allow a more accurate reporting of chronic diseases to track the rate of incidence in the U.S. [11]. The incidence of chronic disease is increasing in the general population due to aging in the U.S. population; individuals living longer with chronic diseases which leads to an increase in disabilities from such conditions as arthritis and heart disease [12-16]. Around half of the adults in the U.S. have at least one chronic disease and 26% of the population has two or more chronic diseases [17,18]. The homeless population in comparison to the general population have an increased incidence of chronic disease with increased rates in morbidity and mortality [4,19-24].

Prevalence of Chronic Disease

Chronic diseases in the U.S. affect 117 million people, and one out of four adults in the U.S. have two or more chronic diseases [11,12,25,26]. Seven of the top ten causes of death in the U.S. are from chronic diseases [11]. Chronic diseases with the highest rate of leading to death are heart disease and cancer [11,16-18]. The exact prevalence rates for chronic diseases for the homeless population is difficult to obtain due to the reporting and tracking of the homeless population, however the prevalence rates are higher for the homeless than the general population [27-29]. Homeless individuals tend to be a medically vulnerable population with a high burden of disease and decreased ability to access health care which prevents for early identification of health problems that are treatable [5,30-32].

Diabetes Mellitus Type 2

T2DM is a heterogeneous disease that is characterized by chronically increased plasma glucose levels in the body [33]. T2DM occurs when the pancreas can no longer meet the demands of the body for insulin requirements or the beta cells in the pancreas are totally worn out or burned out. Additionally, insulin resistance may occur with T2DM when the person continues to produce insulin, but the insulin is ineffective in breaking down glucose and making the glucose ready for the cells to use for energy [2,34-36].

Three tests may be used to diagnose T2DM; fasting plasma glucose, 2-hour glucose tolerance test after a 75-gram glucose load is consumed, and A1c [1,2]. There is no preference of one diagnostic test over another, all are equally effective [1,2]. There is evidence to support the correlation of increase in age, increase in body mass index, and prediabetes as risk factors for the development of T2DM [1,2]. When diabetes is diagnosed in an individual person, a team approach in the management of the diabetes is needed to help decrease complications. This team generally includes primary health care providers, along with a dietician, podiatrist, ophthalmologist, case manager or registered nurse, a social worker if needed, and a certified diabetes educator [1,2,8]. Every person with diabetes should have an individualized plan of care based on national standards as the guide [1,2,8].

There are several research studies that support the concepts of self- management of chronic disease such as arthritis, heart failure, coronary artery disease, chronic kidney disease and diabetes to improve patient outcomes and help to decrease the cost of health care in patients with chronic diseases [17,37-45]. There are several studies in which different approaches for management of T2DM in people were studied in the general population and minority groups to exam the impact on blood pressure control, diet control, heart disease or cardiovascular events, and A1c levels [46-57].

Research studies support that diabetes self-management strategies which includes eating a proper diet, maintaining a blood glucose levels close to normal with an A1c level less than or equal to seven, adequate blood pressure control, weight control, and adequate medical care improves the overall quality of life of individuals with diabetes [1,2,9]. There are limited studies that exam diabetes self-management in the homeless population.

Homelessness

Homelessness, a growing public health concern in the U.S. is defined as a situation in which a person does not have a fixed, adequate, nighttime residence or a situation in which a person is living in a location supervised through a private or public shelter that is providing temporary housing [58]. However, there are also other ways people are homeless. For example, people who live on the “streets” or on a family member or friend’s couch are also homeless. Additionally, there are homeless individuals who are described as the “Chronically Homeless”, such as U.S. veterans who may have mental illness or substance-abuse problems [59]. Some people who are “chronically homeless” may choose to remain homeless, and they may prefer to live under bridges and in tents on the streets [60].

The homeless population continues to be a concern in the U.S. despite governmental and private initiatives to end homelessness [60]. The homeless population continues to be vulnerable and at increased risk for the development of chronic health issues, as compared to the general population. The homeless population is 3 to 6 times more likely to become ill as compared to the general population experiencing mental illness, substance abuse, Human Immunodeficiency Virus (HIV), and chronic diseases, such as T2DM [6]. Chronic diseases in the homeless population carry an increase in morbidity and mortality rates related to their homelessness, lack of health insurance, and/or lack of access to health care [5]. The homeless population has a higher rate of hospitalization than the general population, and they are 3 to 4 times more likely to die at a younger age than the general population [6].

Methods

The purpose of this research was to interpret the lived experience of individuals with Type 2 diabetes mellitus (T2DM) living in a homeless environment to obtain a deeper understanding of how they self-manage their disease. A Heideggerian interpretive phenomenology approach guided the study [61]. The study received IRB approval and participants were recruited. Participants were interviewed in a private area at a parish in Northeast Ohio to understand their perspectives on having diabetes and being homeless. The interviews were analyzed using the seven-step method of critical hermeneutic analysis according to the modified procedure outlined by Diekelmann, et al. [62].

Flyers were distributed to homeless adults two days a week at the parish prior to breakfast and evening meals while they were in line outside the parish. Additionally, the primary researcher approached potential individuals during mealtime to discuss the study and determine if individuals met inclusion criteria since all who came to the parish for meals were not homeless.

Purposive sampling was used to recruit 32 homeless individuals from a parish located in Northeast Ohio. The parish provides a variety of services to the community including meals. Most of the meals were high in Carbohydrates (CHOs) and limited in fruits and vegetables. Individuals were given a brown paper bag filled with bread to take with them as they left the parish. Some individuals would secretly pack up some of the food provided during mealtime to take with them for later. Individuals were not allowed to remove food from the parish, but they were allowed second and third servings of food from what was left over.

The primary researcher used a snowball sampling technique, which allowed homeless individuals who had already been interviewed to discuss and recommend the study to other homeless individuals. Thirty-two individuals who met the inclusion criteria of being diagnosed with T2DM and being homeless participated in the study. The data from three participants were lost due to technical problems with the digital recorder and one participant’s interview was stopped by the primary researcher due to the individual’s cognitive inability to respond to the research questions. The analysis of the data included responses from twenty-eight participants.

Results

The overarching theme of “Being homeless and having diabetes is difficult” addressed the research question: What is the lived experience of homeless individuals with type 2 diabetes? Data supporting the subthemes of “It stresses me out “and It’s hard to take care of myself” answered these research questions: What is the meaning of self-management in persons with diabetes living in a homeless environment? and, How does persons with diabetes manage their disease in a homeless environment? Sources of non-medical resources described most often by participants were shelter, transportation, and food.

All the participants provided exemplars that answered the research questions. Lack of medical resources such as regular appointments with medical providers for health care, lack of glucometers for testing blood glucose levels, obtaining test strips, and storing medications were barriers to diabetes self-management. These resources are required for proper self-management of diabetes.

Demographic Data

The demographic characteristics of the participants are displayed in (Table 1). Of the twenty-eight participants, eighteen were male and ten were female. Their ages ranged from twenty-one to sixty-three years with an average of forty-eight years. The time from being diagnosed with T2DM ranged from one month to twenty years. Participants described being homeless for two weeks to twenty + years. Eight participants (28%) were homeless more than two years and two (7%) were homeless intermittently for more than twenty years.

Gender Females 10 Males 18	
Age Average age = 48 years Range age = 21-63 years	
Diagnosis of T2DM prior to becoming homeless	n = 23 Females = 9 Males = 14
Diagnosis of T2DM after becoming homeless	n = 5 Female = 1 Males = 4
Length of time after T2DM diagnosis (all participants)	1 month to 20 years (range) Average 5.28 years
Length of time being homeless (all participants)	2 weeks to 20+ years (range) Average 2.73 years
Identified PCP Yes n = 23 (Female 8, Male 15) No n = 5 (Female 1, Male 4) Visits: Range: once a month to twice a year Average: Every 3 to 6 months	
Frequency of visits with PCP (as reported by participants)	
Once a month	2
Every 6 weeks	1
Every 3 months	6
Every 3 to 4 months	1
Every 4 months	1
Every 6 months/twice a year	6
Once a year	5
Outlier (Miscellaneous/no report)	6

Table 1: Demographic Data N = 28.

Twenty-three participants (82%) reported receiving medical care from a primary care provider (PCP), and five participants (18%) did not identify a PCP. One male participant reported receiving medical care in the Emergency Department (ED), and another male participant reported receiving medical care at a community clinic.

Participants reported frequency of visits with their PCP. Eight participants (29%) reported visiting a PCP every three to four months. Six participants (21%) reported visiting a PCP every six months or twice a year. Five participants (18%) reported visiting a PCP once a year. One participant reported visiting a PCP every six weeks. Two participants (7%) reported visiting a PCP every month. Six participants (21%) reported no visits with a PCP.

Twenty-three participants (82%) were diagnosed with T2DM prior to being homeless, and five participants (17%) were diagnosed with T2DM after being homeless. The participants that were diagnosed with T2DM prior to being homeless demonstrated greater understanding of T2DM and enhanced knowledge related to self-management of diabetes. The participants who were diagnosed with T2DM after being homeless were less knowledgeable about T2DM and were unsure how to self-manage their disease.

Limitations

There were several limitations to this study. First, conducting a pilot study or a feasibility study would have been helpful to assess the interview questions. The initial semi-structured interview questions did not allow participants to provide rich descriptions of their lived experience being homeless with T2DM. Many participants needed to be redirected to the interview questions related to diabetes self-management. The participants wanted to talk about how people did not care about them and how they were misjudged by people. Interviews were short in duration requiring an increased number of participants for data saturation.

Second, using individual interviews may have limited the participants' responses to describe their lived experiences. Focus group interviews may have allowed the participants to expand their stories based on other participants responses in the group [63,64]. According to Krueger and Casey [65], focus group interviews are useful for participants to explore and gather information about their lived experiences and share their experiences with others in the group. Focus groups may have allowed the participants in this study to feel more comfortable sharing their stories about being homeless with diabetes. In addition, the combination of using individual interviews with focus groups may enhanced the richness of the data [66].

Third, the study was conducted at one location in Northeast Ohio. This limits the ability to generalize the findings to other homeless populations. Homeless individuals from different locations may differ in their description of their lived experience of being homeless with T2DM. And finally, race and ethnicity were not obtained in the demographic data. This information would have been helpful to further describe the sample but would not yield any additional information related to homeless individuals and their lived experience of managing diabetes.

homeless individuals. Health care providers of many types, registered nurses, dieticians, social workers, case managers and certified diabetes educators will have an increased understanding of the needs of homeless individuals with diabetes. Research has shown that individuals with diabetes in the general population need on-going support to help with diabetes self-management behaviors.

Discussion

The findings of this study can guide future development of Diabetes Self-Management Programs (DSMPs) and Diabetes Self-Management Education and Support (DSMES) that are tailored to the needs of homeless individuals. Health care providers of many types, registered nurses, dieticians, social workers, case managers and certified diabetes educators will have an increased understanding of the needs of homeless individuals with diabetes. Research has shown that individuals with diabetes in the general population need on-going support to help with diabetes self-management behaviors.

There were several barriers preventing homeless individuals from maintaining adequate diabetes self-management behaviors. Findings from this study provide evidence for health care providers and health care teams to establish Diabetes Self-Management Programs (DSMPs) and Diabetes Self-Management Education and Support (DSMES) in the homeless community to provide continuous support and resources for homeless individuals with their diabetes self-care. This study provides an early foundation for further studies exploring the phenomenon of homeless individuals with diabetes and other chronic diseases.

Acknowledgements

The author wants to acknowledge Dr. Pamela Stephenson, PhD, RN from Kent State University College of Nursing, Kent, Ohio with assistance of identifying the research themes.

References

1. American Association of Clinical Endocrinologists and American College of Endocrinology (2020) Consensus statement on the comprehensive Type 2 Diabetes Management Algorithm-2020 Executive Summary. *Endocrine Practice* 26: 107-139.
2. American Diabetes Association (2020) Diabetes Care: Standards of medical care in diabetes. *The Journal of Clinical and Applied Research and Education* 43: S1-S2.
3. Centers for Disease Control and Prevention (2020) National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States. Department of Health and Human Services.
4. Baggett TP, Hwang SW, O'Connell JJ, et al. (2013) Mortality among homeless adults in Boston shifts in causes of death over a 15-year period. *Journal of American Medical Association Internal Medicine* 173: 189-195.
5. Fryling LR, Mazanec P, Rodriguez RM (2015) Barriers to homeless persons acquiring health insurance through the affordable care act. *The Journal of Emergency Medicine* 49: 755-762.
6. Maness DL, Muneza K (2014) Care of the homeless: An overview. *American Family Physician* 89: 634-640.
7. O'Toole TP, Buckel L, Bourgault C, et al. (2010) Applying the chronic care model to homeless veterans: Effect of a population approach to primary care on utilization and clinical outcome. *American Journal of Public Health* 100: 2493-2499.
8. American Association of Diabetes Educators (2019) AADE7 Self-Care Behaviors. Resources for People Living with Diabetes.
9. Bluml B, Kolb LE, Lipman R (2019) Evaluating the impact of year-long, augmented diabetes self-management support. *Population Health Management* 22.
10. Mongin-Bulewski C (2011) Evidence-based nutrition guidelines for diabetes management. *Nurse Prescribing* 9: 214-216.
11. Centers for Disease Control and Prevention (2015b) Chronic Disease Indicators. National Center for Chronic Disease Prevention and Health Promotion.
12. Davis J, Penha J, Mbowe O, et al. (2017) Prevalence of single and multiple leading causes of death by race/ethnicity among us adults aged 60 to 79 years. *Preventing Chronic Disease* 14.

13. Muntinga ME, Van Leeuwen KM, Schellevis FG, et al. (2015) From concept to content: Assessing the implementation fidelity of a chronic care model for frail, older people who live at home. *BMC Health Services Research* 15.
14. Sell KA, Amella EJ, Mueller M, et al. (2016) Chronic disease self- management and behavior change attitudes in older adults: A mixed-method feasibility study. *Sage Open* 1-9.
15. Wagner EH, Austin BT, Davis C, et al. (2015) Improving chronic illness care: Translating evidence into action. *Health Affairs* 20: 64-78.
16. Ward BW, Schiller JS, Goodman RA (2014) Multiple chronic conditions among U.S.adults: A 2012 update. *Preventing Chronic Disease* 11: E62.
17. Bauer UE, Briss PA, Goodman RA, et al. (2014) Prevention of chronic disease in the 21st century: Elimination of the leading preventable causes of premature death and disability in the USA. *The Lancet* 384: 45-52.
18. Haynes S, Kim KK (2016) A mobile care coordination system for the management of complex chronic disease. *Studies in Health Technology and Informatics* 225: 505-509.
19. Fazel S, Geddes JR, Kushel M (2014) The health of homeless people in high-income countries: Descriptive epidemiology, health consequences, and clinical and policy recommendations. *The Lancet* 384: 1529-1540.
20. Hanlon P, Yeoman L, Esioyva R, et al. (2017) Interventions by health care professionals to improve management of physical long-term conditions in adults who are homeless: A systematic review protocol. *BMJ Open*.
21. Hwang SW, Kirst MJ, Chiu S, et al. (2009) Multidimensional social support and the health of homeless individuals. *Journal of Urban Health* 86: 791-803.
22. Hwang SW, Chambers C, Chiu S, et al. (2013) A comprehensive assessment of health care utilization among homeless adults under a system of universal health insurance. *American Journal of Public Health* 103: S294-S301.
23. Ko E, Kwak J, Nelson-Becker H (2014) What constitutes a good and bad death? Perspectives of homeless older adults. *Death Studies* 39: 422-432.
24. LePage JP, Bradshaw LD, Ciper DJ, et al. (2014) The effects of homelessness on veterans' health care service use: An evaluation of independence from comorbidities. *Public Health* 128: 985-992.
25. Chapel JM, Ritchey MD, Zhang D, et al. (2017). Prevalence and medical costs of chronic diseases among adult Medicaid beneficiaries. *American Journal of Preventive Medicine* 53: S143-S154.
26. Johnson JA, Peterson H, Dotherow JE, et al. (2013) The burden of chronic disease in Alabama: Epidemiology, economics, and policy.
27. Katz MH (2017) Homelessness-challenges and progress. *Journal of American Medical Association* 318: 2293-2294.
28. Seiler AJ, Moss VA (2012) The experience of nurse practitioners providing health care to the homeless. *Journal of the American Academy of Nurse Practitioners* 24: 303-312.
29. Zlotnick C, Zerger S (2008) Survey findings on characteristics and health status of clients treated by the federally funded (us) health care for the homeless programs. *Health and Social Care*.
30. Bharel M, Lin WC, Zhang J, et al. (2013) Health care utilization patterns of homeless individuals in Boston: Preparing for Medicaid expansion under the Affordable Care Act. *American Journal of Public Health* 103: S311-S317.
31. Hodge JG, DiPietro B, Horton-Newell AE (2017) Homeless and the public's health: legal responses. *Journal of Law, Medicine & Ethics* 45: 28-32.
32. Zur J, Jones E (2014) Unmet need among homeless and non-homeless patients served at health care for the homeless programs. *Journal of Health Care for the Poor and Underserved* 25: 2053-2068.
33. Henninger J, Rawshani A, Hammarstedt A, et al. (2017) Metabolic characteristics of individuals at a high risk of type 2 diabetes-a comparative cross-sectional study. *BMC Endocrine Disorders* 17.
34. Blair M (2016) Diabetes mellitus review. *Urologic Nursing* 36: 27-36.
35. Phillips A (2016) Optimizing the person-centered management of type 2 diabetes. *British Journal of Nursing* 25: 535-538.
36. Skyler JS, Bakris GL, Bonifacio E, et al. (2017) Differentiation of diabetes by pathophysiology, natural history, and prognosis. *Diabetes* 66: 241-255.
37. Ahn S, Basu R, Smith ML, et al. (2013) The impact of chronic disease self-management programs: Health care savings through a community-based intervention. *BMC Public Health* 13: 114.
38. Benzo R, Vickers K, Ernst D, et al. (2013) Development and feasibility of a COPD self-management intervention delivered with motivational interviewing strategies. *Journal of Cardiopulmonary Rehabilitation and Prevention*, 33: 113-123.
39. Bodenheimer T, Wagner EH, Grumbach K (2002) Improving primary care for patients with chronic illness: The chronic care model, part 2. *American Medical Association* 288: 1909-1914.
40. Brady TJ, Murphy L, Beauchesne D, et al. (2011) Sorting through the evidence for the arthritis self-management program and the chronic disease self-management program, executive summary of ASMP/CDSMP meta-analyses. Centers for Disease Control and Prevention.
41. Coddington D C, Moore KD (2012) Reducing health care costs through better chronic disease management. *Health care Financial Management* 66: 126-128.
42. Fleming SE, Boyd A, Ballejos M, et al. (2013) Goal setting with type 2 diabetes: A hermeneutic analysis of the experiences of diabetes educators. *The Diabetes Educator* 39: 811-819.
43. Gordon C, Galloway T (2008) Review of findings on Chronic Disease Self-Management Program (CDSMP) outcomes: Physical, emotional & health-related quality of life, health care utilization and costs. Washington, DC: Centers for Disease Control and Prevention and National Council on Aging.
44. Lorig KR, Hurwicz ML, Sobel D, et al. (2005a) A national dissemination of an evidence-based self-management program: A process evaluation study. *Patient Education and Counseling* 59: 69-79.

45. Radhakrishnan K (2011) The efficacy of tailored interventions for self-management outcomes of type 2 diabetes, hypertension or heart disease: A systematic review. *Journal of Advanced Nursing* 68: 496-510.
46. Avery L, Flynn D, Dombrowski SU, et al. (2015) Successful behavioural strategies to increase physical activity and improve glucose control with type 2 diabetes. *Diabetic Medicine* 32: 1058-1062.
47. Baig AA, Benitez A, Locklin CA, et al. (2015) Picture good health: A church-based self-management intervention among Latino adults with diabetes. *Journal of General Internal Medicine* 30: 1481-1490.
48. Chen C, Yeh MC (2014) The experiences of diabetics on self-monitoring of blood glucose: A qualitative metasynthesis. *Journal of Clinical Nursing* 24: 614-626.
49. Franklin B (2014) The impact of continuity of care on A1c levels in adult type 2 diabetic patients: A review of the literature. *The Journal for Nurse Practitioners* 10: 486-492.
50. Gatlin TK, Serafica R, Johnson M (2017) Systematic review of peer education intervention programmes among individuals with type 2 diabetes. *Journal of Clinical Nursing* 26: 4212-4222.
51. Gumbs JM (2012) Relationship between diabetes self-management education and self-care behaviors among African American women with type 2 diabetes. *Journal of Cultural Diversity* 19: 19-22.
52. Martin AL, Lipman RD (2013) The future of diabetes education: Expanded opportunities and roles for diabetes educators. *The Diabetes Educator* 39: 436-446.
53. Murray E, Dack C, Bardnard M, et al. (2015) Help-diabetes: Randomized controlled trial protocol. *BMC Health Services Research*, 15: 578.
54. Murrock CJ, Higgins PA, Killion C (2009) Dance and peer support to improve diabetes outcomes in African American women. *The Diabetes Educator* 35: 995-1003.
55. Reusch JEB, Manson JE (2017) Management of type 2 diabetes 2017: Getting to goal. *Journal of American Medical Association* 317: 1015-1016.
56. Ross S, Benavides-Vaello S, Schumann L, et al. (2015) Issues that impact diabetes self-management in rural communities. *Journal of the American Association of Nurse Practitioners* 27: 653-660.
57. Yuan C, Lai CWK, Chan LWC, et al. (2014) The effect of diabetes self-management education on body weight, glycemic control, and other metabolic markers in patients with type 2 diabetes mellitus. *Journal of Diabetes Research*, 2014, 1-6.
58. Henry M, Watt R, Mahathey A, et al. (2020) The 2019 Annual Homeless Assessment Report (AHAR) to Congress. The U.S. Department of Housing and Urban Development. Office of Community Planning and Development. 2019-AHAR-Part-1 Point-in-Time.
59. Bachhuber MA, Roberts CB, Metraux S, et al. (2015) Screening for homelessness among individuals initiating medication-assisted treatment for opioid use disorder in the Veterans Health Administration. *Journal of Opioid Management* 16: 459-462.
60. National Alliance to End Homelessness (2020).
61. Crist JD, Tanner CA (2003) Interpretation/analysis methods in hermeneutic interpretive phenomenology. *Nursing Research* 52: 202-206.
62. Diekelmann N, Allen D, Tanner C (1989) The NLN Criteria for Appraisal of Baccalaureate Programs: A Critical Hermeneutic Analysis. National League for Nursing.
63. Baillie L (2019) Exchanging focus groups for individual interviews during qualitative data collection: A discussion. *Nurse Researcher* 27.
64. Didericksen KW, Das BM (2019) Type 2 Diabetes as a familial illness: Findings from a focus group study. *Families, Systems, & Health* 37: 235-243.
65. Krueger RA, Casey MA (2014) *Focus groups: A practical guide for applied research* (5th Edition). Sage Publishing.
66. Lambert D, Loiselle CG (2007) Combining individual interviews and focus groups to enhance data richness. *Journal of Advanced Nursing* 62: 228-237.