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Research Article

Determination of Social Determinants of Health and Diabetes Management Characteristics of Patients with Type 2 Diabetes

Sağlığın Sosyal Belirleyicileri ve Tip 2 Diyabetli Hastaların Diyabet Yönetimine İlişkin Özelliklerinin Belirlenmesi

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ABSTRACT

Objective: Health-related social needs (HRSNs) stem from structural inequities and may also lead to worse health outcomes. HRSNs may have important implications for diabetes self-management. This study was conducted to determine the relationship between HRSNs, and disease self-management among individuals with type 2 diabetes.

Methods: This descriptive, cross-sectional, and correlational study was conducted with 292 individuals with type 2 diabetes. Descriptive statistics, independent samples t-test, one-way analysis of variance, Pearson correlation coefficient, and structural equation modelling were used in the analysis of the data.

Results: This study showed that 22.9% (n=67) of the participants had at least one negative HRSNs. The participants' the negative HRSNs were 45% are food insecurity, 44% public service needs, 28% interpersonal safety, 18% housing instability, and 16% transportation needs. A statistically significant relationship was found between the HRSNs and disease self-management (p<.05).

Conclusion: These findings may be considered in designing specific strategies to meet social needs for effective diabetes self-management. Nurses may identify patients' social needs in diabetes self-management and ensure that patients' social needs are met by collaborating with social work practitioners.

Keywords: Self-management, Social Needs, Type 2 Diabetes

ÖZ

Amaç: Sağlıkla ilgili sosyal ihtiyaçlar yapısal eşitsizliklerden kaynaklanır ve daha kötü sağlık sonuçlarına yol açabilir. Sosyal ihtiyaçların diyabet öz yönetimi üzerinde önemli etkileri olabilir. Bu çalışma, tip 2 diyabetli bireyler arasında sosyal ihtiyaçlar ile hastalık öz yönetimi arasındaki ilişkiyi belirlemek amacıyla yapılmıştır.

Yöntem: Tanımlayıcı, kesitsel ve korelasyonel tipte olan bu çalışma 292 tip 2 diyabetli birey ile yürütülmüştür. Verilerin analizinde tanımlayıcı istatistikler, bağımsız örneklem t-testi, tek yönlü varyans analizi, Pearson korelasyon katsayısı ve yapısal eşitlik modellemesi kullanılmıştır.

Bulgular: Bu çalışma, katılımcıların %22,9'unun (n=67) en az bir sosyal ihtiyacı olduğunu göstermiştir. Katılımcıların %45'inin gıda, %44'ünün kamu hizmeti, %28'inin kişilerarası güvenlik, %18'inin konut ve %16'sının ulaşım ihtiyaçları olduğunu göstermiştir. Sağlığın sosyal belirleyicileri ile hastalık öz yönetimi arasında istatistiksel olarak anlamlı bir ilişki bulunmuştur (p<,05).

Sonuç: Bu bulgular, etkili diyabet öz yönetimi için sosyal ihtiyaçların karşılanmasına yönelik özel stratejilerin tasarlanmasında dikkate alınabilir. Hemşireler, diyabet öz-yönetiminde hastaların sosyal ihtiyaçlarını belirleyebilir ve sosyal hizmet uygulayıcıları ile işbirliği yaparak hastaların sosyal ihtiyaçlarının karşılanmasını sağlayabilir.

Anahtar Kelimeler: Öz Yönetim, Sosyal İhtiyaçlar, Tip 2 Diyabet

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INTRODUCTION

Health-related social needs (HRSNs) are individual-level adverse conditions identified by patients that may contribute to poor health outcomes (Nederveld et al., 2022). The HRSNs are housing instability, food insecurity, transportation needs, public service needs and interpersonal safety. Clinical care is estimated to account for 10-20% of healthcare outcomes, while factors related to health behaviours, socioeconomic status, and physical environment are estimated to explain 80-90% of health outcomes (Magnan, 2017). It is noted that underserved patient populations are more likely to have HRSNs that impede access to care (Beavis et al., 2020). Therefore, understanding a patient's social needs and meeting identified needs is recognized as an important part of disease management. Measuring and addressing HRSNs may help our understanding of how to address outcome disparities, particularly in high-risk populations with Type 2 diabetes (Islami et al., 2024).

Diabetes mellitus (DM) is a complex chronic condition that affects approximately 537 million people worldwide and is responsible for 6.7 million deaths annually (International Diabetes Federation, 2021), with the majority (90-95%) being type 2 diabetes (T2D) (Centers for Disease Control and Prevention [CDC], 2022). Self-management is the primary tool for managing diabetes (England et al., 2009) and associated with various individual and environment-related factors that either promote or impede good self-management (ElSayed et al., 2024). While self-management support is effective in improving clinical outcomes, it can potentially worsen chronic disease outcomes when barriers are not identified (Hardman et al., 2020). Several factors have been documented in the literature that are partially responsible for diabetes self-management; poor adherence to self-management in patients, dynamic and chronic nature of diabetes, financial constraints, work and environment related factors, and unrealistic expectations (Adu et al., 2019; Cuddapah et al., 2022).

Poor diabetes control and HRSNs are strongly correlated (Haw et al., 2021; Marquez et al., 2019; Rodríguez & Campbell, 2017). Hill-Briggs et al. (2020) showed a strong association between geographic factors, availability, food accessibility, and the prevalence of T2DM. A systematic review by Flôr et al. (2018) concluded that social capital is positively associated with diabetes control across a variety of populations, regardless of its level of quality or quantity. Similarly, Rutledge et al. (2017) reported that having at least a high school education has a positive impact on diabetes management as it reduces the unemployment rate and raises the possibility of being able to work in an insured position. Comprehending and mitigating the impact of HRSNs to achieve health equity is a top priority in diabetes research due to the prevalence, economic impact, and disproportionate population burden of diabetes (Hill-Briggs et al., 2020).

The American Diabetes Association has issued a call for research that investigates how HRSNs “influence behaviours and how the relationships between these variables might be modified for the prevention and management of diabetes.” (American Diabetes Association Professional Practice Committee, 2022). Preliminary evidence supports the role of addressing social needs on improving diabetes outcomes (Bhattacharya, 2024; Roth et al., 2023), however no studies addressing the self-management challenges of T2D and the HRSNs challenges that exacerbate the impact of the disease. This study was conducted to identify and illustrate the relationship between the HRSNs and disease self-management of individuals with T2D. This study was conducted to determine and demonstrate the relationship between HRSNs and disease self-management in individuals with type 2 diabetes. In parallel with this information, the research questions are:

- What are the HRSNs of individuals with T2DM?

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- What are the disease self-management levels of individuals with T2DM?
- What is the relationship between the HRSNs of individuals with T2DM and their disease self-management?

METHODS

Design

This study was designed to address HRSNs challenges on self-management in T2D, and correlational.

Participants and Procedure

The population of this study consisted of the individuals admitted to the diabetes outpatient clinic of Fatih Sultan Mehmet Education and Research Hospital in İstanbul, Türkiye. Since the participants in this study visited to the diabetes outpatient clinic for control, an unknown population sample was used since a clear number could not be given by the institution. The minimum number of individuals to be included in the sample of the study was determined by using the sample of unknown population formula ($n=t^2pq/d^2$), at the 95% confidence interval (d=0.05), t=1.96, p=0.5, q=0.5 (Charan & Biswas, 2013). The minimum number of individuals to be included in the sample was found to be 246. A total of 296 individuals with T2D who applied to the diabetes outpatient clinic of a state hospital for control purposes and gave consent to the study were included in the study between November and December 2022. In the post hoc power analysis conducted in line with the results obtained from 292 participants, the power of our study was calculated to be 99% at the medium effect size at a 95% confidence level (Cohen, 1992).

Measures

The study's data were collected using a personal information form containing Socio-demographic Form, T2D Self-management Scale (T2-DMS), and Health Related Social Needs (HRSNs).

Socio-demographic form was created by the researchers and included ten questions regarding individuals with T2D' demographics (gender, age, marital status, education level, social safety and employment status) and diabetes descriptive. We developed a three-item measurement tool to assess participants' diabetes self-management (T2-DMS). The patients were given the following questions: "Do you follow your diet regularly?" "Do you measure your blood sugar-level regularly?" and "Do you go to your doctor's check-ups regularly?" Answers received a score of 1 (no) or 2 (yes). The overall score was used to evaluate the scale. The scale's minimum and maximum values were determined to be 3 and 6, respectively. A high score shows that the patient's diabetes self-management is positive, while a low score indicates that it is negative. The Accountable Health Communities (AHC) Health Related Social Needs (HRSN) Screening Tool developed by Centers for Medicare and Medicaid Services (2020) consists of 10 items. Health Related Social Needs (HRSNs) applies to five core domains: housing instability, food insecurity, transportation needs, utility needs, and interpersonal safety. HRSNs screening should incorporate patients' perspectives on their most pressing needs. Responses were recorded as either positive ("yes the participant endorsed this HRSNs") or negative ("no the participant did not endorse this HRSNs"). It is calculated as (1 point) for positive HRSNs and (0 points) for negative HRSNs. Since each item was recorded by the diabetes nurse by asking the patients, there were no missing data in the study.

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Data Collection

Data were collected by asking survey questions to individuals with T2D by a diabetes specialist nurse who has been working in the diabetes outpatient clinic for a long time and has received training on diabetes. Face-to-face interviews (lasting between 10 and 15 minutes) were conducted between 09:00-17:00 on weekdays, after the participants' diabetes controls.

Data Analysis

The Statistical Package for Social Sciences Version 26.0 (SPSS) and Analysis of Moment Structures Version 24.0 (AMOS-IBM Corporation, Armonk, NY) programs were used for data evaluation. Skewness and Kurtosis values were evaluated for the normality test, which determined that the data was normally distributed (Tabachnick & Linda Fidell, 2021). Demographic data were evaluated using percentage distribution and standard deviation, while descriptive statistics using mean and standard deviation, as well as the relationship between the scales, were determined using Pearson correlation analysis and Continue Correction and Fisher's Exact tests to determine whether there was a significant difference between the HRSNs. The AMOS 24 program was employed to examine the impact of the HRSN on T2-DMS was analysed with structural equation modelling. There is no missing data in the study because the questionnaires were completed by the diabetes specialist nurse by asking the participants. Using the bootstrapping (5.000 bootstrap samples) method, the confidence interval was determined to be 95%. Interpretation of the analysis resulted in an acceptable statistical significance level of $p<.05$.

Ethical Considerations

Ethical approval was obtained from the research ethics committee of a İstanbul Okan University in Turkey (No:16.11.2022-160/3), and institutional permission from the Fatih Sultan Mehmet Training and Research Hospital where the study was scheduled to be conducted for the research. The study was conducted in accordance with the tenets of the Declaration of Helsinki. Before the study began, its purpose was explained to the participants, participants' consent was obtained, and voluntarily participated in the study Participants were also informed that they could exit the study at any time.

RESULTS

Sample Characteristics

The average age of the study's participants was 60.10±10.26 years. The screening tool identified 67/292 participants (22.9%) who had at least one HRSNs at baseline. The HRSNs reported on the baseline screening tool included 45% food insecurity, 44% utility needs, 28% interpersonal safety, 18% housing instability, and 16% transportation needs. People with T2D of male, married, high school, not covered by insurance, without social security, and don't work were found to have more social health needs. Those who had been diagnosed with diabetes for 1-4 years, those who had no family history of diabetes, those who did not follow a diabetes diet and those who did not engage in physical activity had higher social health needs ($p <.05$) (Table 1).

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Table 1. Comparison of Socio-demographic and HRSN Scale Mean Scores

	HRSNs		Negative HRSNs		Positive HRSNs		SMD
	n	%	n	%	n	%	*p*- value
Gender**							
Female	154	52.7	30	19.5	124	80.5	.137
Male	138	47.3	37	26.8	101	73.2	
Marital status**							
Married	242	82.9	56	23.1	186	76.9	.000*
Single	50	17.1	11	22	39	78	
Educational***							
Illiterate	17	5.8	-	-	17	100	.062
Literate	10	3.4	2	20	8	80	
Primary school	172	58.9	40	7	132	93	
High School	53	18.2	17	18.9	36	81.1	
Undergraduate and postgraduate	40	13.7	8	15	32	8	
Social insurance***							
Yes	286	97.9	65	22.7	221	77.3	.623
No	6	2.1	2	33.3	4	66.7	
Employment status**							
Working	70	24	19	27.1	51	72.9	.427
Not Working	222	76	48	21.6	174	78.4	
Diagnosis of diabetes (year)***							
< 1	22	7.3	5	22.7	17	77.3	.128
1-4	40	13.7	15	37.5	25	62.5	
5-9	57	19.5	13	22.8	44	77.2	
≥10	173	59.2	34	19.7	139	80.3	
Family history of diabetes**							
Yes	237	81.2	51	21.5	186	78.5	.305
No	55	18.8	16	29.1	39	70.9	
Compliance with diet of diabetes**							
Yes	69	21.6	12	19	51	81	.508
No	229	78.4	55	24	174	76	
Physical activity status***							
Yes	27	7.5	4	18.2	18	81.8	.793
No	277	92.5	63	23.3	207	76.7	
Total	292	100	67	22.9	225	77.1	

*p<.05, **Continue Correction, ***Fisher's Exact Test, SMD: Standardized Mean Difference.

Descriptive Statistics and Correlation Among Study Variables

Negative HRSNs score of participants were housing instability 0.76 (0.71-0.81), food insecurity 0.61 (0.56-0.66), transportation needs 0.65 (0.52-0.80), utility needs 0.69 (0.64-0.74), and interpersonal safety 0.70 (0.65-0.75) (Table 2). Food insecurity (r=0.243, p<.01), transportation needs (r=0.372, p<.01), utility needs (r=0.390, p<.01), and interpersonal safety (r=0.162, p<.01) had a statistically significant and positive effect on T2-DMS (Table 3).

Table 2. Distribution of the T2-DMS and HRSNs Scale Mean Scores

Variables of HRSNs	95% Confidence Interval	
	T2-DMS	
	HRSNs	Negative HRSNs
	Mean [Min.-Max]	Mean [Min.-Max]
Housing instability	0.79 [0.71-0.84]	0.76 [0.71-0.81]
Food insecurity	0.65 [0.57-0.73]	0.61 [0.56-0.66]
Transportation needs	0.78 [0.70-0.85]	0.65 [0.52-0.80]
Utility needs	0.85 [0.79-0.91]	0.69 [0.64-0.74]
Interpersonal safety	0.71 [0.63-0.78]	0.70 [0.65-0.75]

The mean score was evaluated between 0-1, Min: Minumum, Max: Maximum.

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Table 3. Pearson Correlation Analysis Results of the T2-DMS and HRSNs

Variables of HRSNs		T2-DMS
Housing instability	*r*	.077
	p	.192
Food insecurity	*r*	.243*
	p	.000
Transportation needs	*r*	.372*
	p	.000
Utility needs	*r*	.390*
	p	.000
Interpersonal safety	*r*	.162*
	p	.005

*$p<.01$

Validity and Reliability of the Instruments

Using exploratory factor analysis (EFA), the construct validity of the T2-DMS measurement tool was examined. First, the component structure was established using Principal Components Analysis (PCA). Since the items were collected in a single dimension, rotation was not performed, and the lower limit of the factor loading value was determined as 0.40 (Çokluk et al., 2016). Cronbach's Alpha (α) correlation coefficient was used to determine the internal consistency coefficient in calculating the reliability of the scale.

The T2-DMS consisting of three items was analysed with factor analysis and the suitability of the data structure was evaluated with Kaiser-Mayer Olkin (KMO) and Barlett Sphericity test results. Barlett's Test is expected to be significant, and Kaiser-Meyer-Olkin Test is expected to be greater than 0.50. As a result of the analysis, although the KMO value of T2-DMS was .710, the p value was .000 and the result of Barlett's test was $X^2(3) = 121.970$, indicating that there was a sufficient level of relationship for factor analysis (Çokluk et al., 2016). The overall variance explained was found to be 57.804%. Explanation variance is a statistical measure that shows to what extent the sub-dimensions derived from the factor analysis represent each variable in the data set. The analysis is deemed valid if it explains between 50% and 75% of the data (Çokluk et al., 2016). Item 1, Item 2, and Item 3 each have factor loading values of 0.826, 0.768, and 0.679, respectively. The scale's reliability calculation revealed that its internal consistency coefficient, or Cronbach's alpha, was 0.634.(questions: Do you routinely visit your doctor for check-ups? Do you measure your blood sugar-level regularly? Do you follow your diet regularly?).

Structural equation modelling (SEM) was used to determine the relationship between HRSNs and T2- DMS. The AMOS 24 program was used for SEM, and model fit index values were taken into consideration in the interpretation (George & Mallery, 2010). Model fit values of $0.95 \leq$ GFI; AGFI; NFI; IFI; TLI; CFI< 1.00; $0 \leq$ RMSEA; RMR ≤ 0.05; and $0 \leq \chi^2/sd \leq 2$ were found to be a good fit, and model fit values of $0.90 \leq$ GFI; AGFI; NFI; IFI; TLI; CFI< 0.95; $0.05 \leq$ RMSEA; RMR ≤ 0.08; and $2 \leq \chi^2/sd \leq 5$ were found to be an acceptable fit. Examination of the models showed that *Model* (χ^2/sd: 0.480; GFI: 1.00; AGFI; 0.987; NFI: 0.999; IFI: 1.00; TLI: 1.00; CFI: 1.00; RMSEA: 0.01; RMR: .0069) was valid (Figure 1). This study found that housing instability (β: 0.331), food insecurity (β: 0.336), transportation needs (β: 0.145), utility needs (β: 0.329), and interpersonal safety (β: 0.273) had a statistically significant and positive effect on T2- DMS, and the explained variance value $R^2 = 0.283$ (Table 4).

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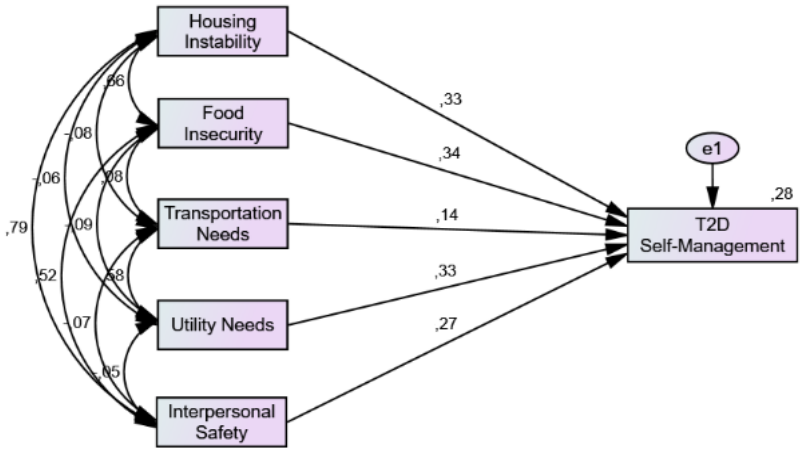

Figure 1. The Relationship Between T2-DMS and HRSNs

Table 4. The Relationship Between T2-DMS and HRSNs Scale in Line with the Established Models

								%95 bootstrapping		
Variables of HRSNs			**USE**	**SE(β)**	**S.E.**	**C.R.**	***p***	**R^2**	**LB**	**UB**	***p* value**
Housing instability	→	T2-DMS	.588	.336	.120	4.889	**		.232	.428	.006*
Food insecurity	→	T2-DMS	.834	.331	.236	3.536	**		.246	.433	.003*
Transportation needs	→	T2-DMS	.586	.329	.111	5.282	**	.283	.248	.457	.004*
Utility needs	→	T2-DMS	.193	.145	.084	2.287	.022*		.052	.284	.016*
Interpersonal safety	→	T2-DMS	.857	.273	.255	3.360	**		.182	.246	.005*

*p<.05, **p<.001, USE: Unstandardized Estimate, SE(β): Standardized Estimate, LB: Lower Bounds, UB: Upper Bounds.

DISCUSSION

Self-management of diabetes and related health outcomes are adversely impacted by social needs, including food, shelter, utilities, etc (Hill-Briggs et al., 2020). As a result of this study, the HRSNs were determined to have a significant positive impact on self-management of diabetes. This study concluded that unmet HRSNs are barriers to diabetes self-management. Therefore, it is thought that by assessing and supporting individuals with T2D' health-related social needs, positive improvements in diabetes self-management behaviors may be achieved.

Turkey is implementing strategies to meet the social health needs of individuals with diabetes. Turkey provides free coverage for the diagnosis and treatment of diabetes and disorders associated to diabetes, medication and glucose meters, surgery for obesity, some vaccinations (flu shots annually, pneumococcal shots every five years), and education for individuals with diabetes. Patients who are found to have damaged at least three organs due to diabetes and have lost at least sixty percent of their working capacity can retire from SSI on disability if they have been insured for at least 10 years and have 1800 days of premium days (Turkey Social Security Institution, 2022). As for indirect social assistance support, diabetic patients who have documented that they have at least 40% diabetes-related disability from a hospital authorized by the Ministry of Health of the Republic of Turkey to issue a disability health board report may be eligible for disability rights support. These rights include discounts in electricity and water usage and transportation, free state-paid disability pensions, reduced tuition rates, and work opportunities for those with disabilities (Turkey Ministry of Family and Social Services, 2023). However, the study results show that despite the strategies implemented, individuals with diabetes still have health-

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related social needs. The findings of this study suggest that the strategies applied may be reconsidered and improved. Public health nurses can monitor social assistance programs within the framework of the Ministry of Family and Social Services in Türkiye and guide T2D individuals. It is essential that public health nurses take part in policies.

Housing instability is associated with poor health (lack of access to preventive services, difficulty in self-care, worsening of the course of chronic diseases, increased use of medical services, inability to afford necessary medicines and supplies, more complications and unhealthy diets, etc.) (Hill-Briggs et al., 2020). Approximately 37% of individuals with diabetes did not have housing security, according to a study of receiving care from community health centres in the USA (Berkowitz et al., 2018). This study found that 18% of the individuals with diabetes had problems with housing. It has been suggested that persons with diabetes who are housed receive better healthcare services and have better diabetes control than homeless persons (Lim et al., 2019) and that housing stability is the most important element in routinizing diabetes self-management (Keene et al., 2018). Therefore, it is thought that providing housing support or housing allowance for individuals with T2D who do not have stable housing will positively support diabetes self-management.

Studies have shown that diabetes management is facilitated (Hill-Briggs et al., 2020) in persons with diabetes who have access to food suitable for their diet, (Seligman et al., 2018) and have access to supermarkets (Zhang et al., 2017). According to the study, 45% of the individuals with T2D had food insecurity, which had a negative impact on T2D self-management. As a result, it reveals the importance of providing healthy eating habits, ensuring food support, and accessing safe food for individuals with T2D.

It has been stated that a lack of transportation for individuals with diabetes can be a major barrier to optimal diabetes self-management (Usoh et al., 2022). Because individuals with diabetes generally need more appointments than those without the disease. It is stated that individuals with diabetes cannot attend appointments due to transportation, and their care management is disrupted (Thomas et al., 2018). In this study, it was determined that 45% of the individuals with T2D had, transportation needs and the condition had a negative impact on diabetes self-management. It is thought that transportation needs in individuals with diabetes may be due to financial, physical ability and geographical location. It is recommended to provide transportation support such as mobile tools, online interviews, home visits to individuals with diabetes.

Successful diabetes self-management requires that individuals with diabetes frequently monitor their blood glucose levels and take required actions in order to keep it within a physiological level (Ahola & Groop, 2013). In this study, however 97.9% of the participants had insurance coverage, 44% of them did not have access to public services. This might be explained by the fact that physical inadequacy, financial inadequacy or transportation problems. It is thought that patient-oriented investigation of these barriers and multidisciplinary work in line with the need will support individuals' diabetes self-management.

Social harmony (friends, family members and physicians etc.) has been discovered to have a positive impact on diabetes management across a wide range of populations (Cuddapah et al., 2022). According to a study, having more social support is linked to better blood glucose levels and a higher quality of life, while lower levels of social support are linked to increased mortality and complications from diabetes (Ogungbe et al., 2022). This study found that 45% of the individuals with T2D had not interpersonal safety, and the condition had a negative impact on diabetes self-management. In this sense, maintaining a healthy lifestyle requires joint efforts and the co-responsibility of professionals (especially nurses), users and family members in the management of diabetes self-management. Diabetes lifestyle interventions that have utilized the

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empowerment approach as described by providing psychosocial support and diabetes education in a way that empowers clients and engages them in the decision process, have resulted in increased diabetes self-management in at-risk populations. Public health nurses and social work practitioners working with individuals with a diabetes diagnosis can utilize the empowerment approach to help clients achieve successful diabetes self-management.

Primary health care (PHC) and interprofessional collaboration are needed for diabetes self-management (Feryn et al., 2022). PHC is pushed forward as it is usually the first contact of care in the health care system (Ashcroft et al., 2017) and more accessible and responsive to people's needs (Miller et al., 2018). PHC brings together public health nurses, and social workers within interprofessional team-based care (Brown et al., 2021). Public health nurses and social work practitioners may collaborate in diabetes self-management. Public health nurses may identify health-related social needs that negatively affect the self-management of individuals with diabetes, while social workers may provide social support. For example, In Canada, a PHC model has been developed that serves more vulnerable segments of the population. Community Health Centers under this model aim to meet the broad health needs of the population from the perspective of social determinants and serve the relevant neighborhood areas. Within this model, they are typically composed of family physicians, nurses and nurse practitioners, as well as other allied health professionals, such as social workers, pharmacists and dietitians, who provide a range of health and mental health services without the burden of direct costs assumed by the patient (Marchildon & Hutchison, 2016; Tadic et al., 2020).

Limitations

Due to the cross-sectional nature of the study, no causal inferences can be made from the study. Since the study derived from a self-report questionnaire, which could have resulted in response bias. Additionally, 5 separate HRSNs were used in the study and the associations we found may have been affected by unmeasured HRSNs factors.

CONCLUSIONS

The results of this study emphasize that health-related social needs may be an important factor on diabetes self-management. Nurses, who play an important role in diabetes self-management of individuals with T2D and are key members of multidisciplinary diabetes teams, have an important role. Social workers, who identify the needs of individuals, meet their needs and provide assistance, offer supply-oriented services as well as demand-oriented services and attach importance to protective-preventive services. For successful diabetes self-management, it is recommended that nurses, especially public health nurses, screening individuals with T2D for HRSNs, meet the social health needs identified as a result of screening, and collaborate with social work practitioners. T2D individuals visiting the family health centers should be questioned in terms of negative HRSNS and the situation should be communicated and followed up by social workers to address their needs.

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