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Social Support in Relation to Self-Management Behaviors Among Diabetic Individuals of Poblacion II, Tagbilaran City, Bohol

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ABSTRACT

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This study delves into the relationship between social support and self-management behaviors among diabetic individuals in Poblacion II, Tagbilaran City, Bohol. Employing a descriptive correlational survey design and a stratified sampling method, 48 respondents were selected, revealing that a majority were middle to older aged adults, married, and residing below the official poverty threshold. Hypertension emerged as the predominant comorbidity, affecting 75% of respondents. Examining social support dimensions, the study found a moderate level across most aspects, except for smoking, which displayed lower support. Remarkably, the overall self-management level among respondents was very good. Significant

relationships were identified between social support and self-management practices, particularly concerning Alcoholism/Drug Addiction, Obesity, and Stroke. The study rejects the null hypothesis, establishing a significant correlation (p value – 0.001) between social support and diabetes self-management practices. Recommendations include tailored assessments considering comorbidities, emphasizing newly adopted practices, and implementing targeted programs like tele-consultations and a "buddy system" for specific demographics. This research contributes valuable insights for healthcare professionals and policymakers, urging a holistic approach to diabetes management that integrates social support dynamics.

INTRODUCTION

Diabetes, characterized by insufficient insulin release or ineffective insulin utilization, is a chronic condition affecting millions globally. Type 2 diabetes, linked to lifestyle and diet, is the most prevalent form, particularly affecting middle and late adulthood (WHO, 2011). Global estimates by IDF Diabetes Atlas (2021) project an alarming rise in diabetes cases, with 1 in 10 adults currently affected and a projected increase to 643 million by 2030. The Philippines has witnessed an escalating prevalence rate, reaching 7.1% in 2019. Notably, diabetes has transitioned from the sixth to the fourth leading cause of death in the country.

Three nursing theories—Imogene King's Goal Attainment Theory, Dorothea Orem's Self-Care Deficit Nursing Theory, and Albert Bandura's Social Cognitive Theory—offer valuable insights for diabetes care. These theories emphasize patient involvement, self-management principles, and the interplay of individual, environment, and behavior, respectively.

The research topic focuses on "Social Support in Relation to Self-Management Behaviors among Diabetic Individuals." Social support plays an essential role in diabetes management, influencing self-efficacy and health outcomes. Aligning with Sustainable Development Goals, particularly Goal 3 (Good Health and Well-being) and Goal 4 (Quality Education), the study also aligns with Republic Act No. 8191, known as the "National Diabetes Act of 1996." Global figures indicate an 8.8% prevalence of diabetes, with Asia, including the Philippines, experiencing a surge. Filipinos are predisposed to type 2 diabetes, with lifestyle choices contributing to a prevalence of 4.1%.

The interaction and efforts in managing diabetes with social support greatly impact self-management. Self-management, a key factor in improving quality of life and preventing complications, requires consistent proactive behavior. Social support, perceived and received, significantly influences health behaviors, with different types of diabetes exhibiting varying levels of sensitivity to management strategies.

Self-management of diabetes is crucial for a better quality of life, and social support plays a vital role in ensuring adherence to prescribed treatments. The research aims to delve into the dynamics of social support and its impact on self-management behaviors among diabetic individuals, contributing valuable insights for effective care strategies.

According to the International Diabetes Federation's latest figures, around 8.8% of the world's population has Diabetes as of 2019, a 2.4% rise from 2010 (6.4%). Around one in eleven individuals globally has diabetes mellitus, with 90 percent of the cases being type 2 (T2DM). Asia accounts for a significant percentage of the emerging worldwide T2DM incidence. China and India are considered as the world's two largest diabetes epicenters in a population (Zheng, Ley, & Hu, 2018).

In Southeast Asia, the incidence of type 2 diabetes is increasing at a fast pace. Epidemiologic research in the United States has found that Filipinos have a greater prevalence of type 2 diabetes than other races (Cheng, Kanaya, Araneta, Saydah, Kahn, Gregg, Fujimoto, Imperatore, 2019). Diabetes mellitus is quite prevalent among Filipinos in this period of the 20th century affecting 4.1% of its population. This could be a result of lifestyle choices. Filipinos and Diabetes are inextricably linked, approximating to 2.5% million Filipinos, excluding those who are undiagnosed.

Moreover, the interaction and efforts in managing diabetes with diabetic individuals' social support range greatly. Several characteristics of T2DM family functioning were recognized in literatures, both in theory and observation, as crucial for self-management and psychosocial well-being (Mayberry, Greevy, Huang, Zhao, & Berg, 2021).

Self-management is the capacity to prioritize objectives, determine what must be accomplished, and hold oneself responsible for completing the required actions. Moreover, self-management is the ability that requires a person to consistently and pro-actively enhance one's behavior. This skill can help improve quality of life and decrease risk of complications. Benefits of self-management for Diabetes includes decreased Glycemic levels and decreased readmissions and hospitalizations (Hooks, 2021).

The literature of Bonner, Foster and Spears-Lanoix published last 2016 demonstrates that self-care management programs for type 2 diabetes has beneficial effect on health habits and prognosis. It is possible to improve lower extremity issues associated with type 2 diabetes by effectively implementing foot care interventions that include knowledge and behaviors. In type 2 diabetes, regulation of these strategies is necessary. This proposed intervention could broaden the scope of DSME to encompass foot care and other problems.

Amidst challenges and factors that affect self-management, this is where social support takes place. One of the psychological elements for adherence

to self-care and control of chronic diseases is social support. Perceived social support, on the other hand, is more essential than other types of social support, such as received social support and social fixation (Mohebi, Parham, Sharifirad, Gharlipour, Mohammadbeigi, & Rajati, 2018). Social support plays a vital role in the health behaviors of diabetic patients but still differs according to its type. Each type of Diabetes has different levels of pain and coping management. It was revealed in the study by Hempler, Joensen, & Willaing (2016) that type 1 diabetes was more sensitive when it comes to its management, which needs attention. Despite these differences, it does not affect the gender upon rendering management. It instead helps those who have undergone Type 2 diabetes to stay motivated by their family and friends' undying support.

In the end, self-management of Diabetes is critical for sustaining one's quality of life and avoiding long-term problems. Diabetes management occurs within a social environment that encompasses a variety of resources, including family, peers, romantic partners, and healthcare providers (Vongmany, Luckett, Lam, & Phillips, 2017). Without adequate support or competency, such care plans can burden individuals and add to the stress related to poor adherence to prescribed treatments and self-care burnout. (Eton, Yost, Lai, Ridgeway, Egginton, Rosedahl, Linzer, Boehm, Thakur, Poplau, Odell, Montori, May & Anderson, 2016).

METHODOLOGY

The researchers utilized two assessment tools, one for each variable namely: social support and self-management. The researchers employed a descriptive, correlational design to show the respondents' relationship between social support and self-management behaviors. The respondents of this study were diabetic individuals of Barangay Poblacion II, Tagbilaran City, Bohol. They represent 4.13% of the total population of Tagbilaran City. Among the 54 diabetic cases from the Barangay Health Unit listing, 27 were male, and 27 were female. A stratified sampling technique of forty-eight (48) respondents was selected. As proposed on the sample size of 48, 24 male and 24 female respondents were contacted asking for their participation in the study. Modified questionnaires were utilized and adopted from the standard tool for the Social Support Scale for Self-care in Middle-Aged Patients with Type II Diabetes (S4-MAD) and the Summary of Diabetes Self-Care Activities Measure (SDSCA) for self-management.

The researchers used a rating system, the Likert Scale, to measure which best describes the beliefs or feelings of the respondents. The respondents were asked to rate on a scale of 4, 3, 2, 1 with its description, meaning, and interpretation as follows:

SCALE	DESCRIPTIVE VALUE	MEANING	INTERPRETATION
3.25 - 4.00	Always	I experience this daily.	High Support Level
2.50 - 3.24	Often	I experience this 3-6 times a week.	Moderate Support Level
1.75 - 2.49	Sometimes	I experience this 1-2 time/s a week.	Less Support Level
1.00 - 1.74	Never	I did not practice this at all.	No Support at All

The items assessed the frequencies of specific self-management activities during the previous week: scoring of all items general and specific diet, exercise, blood glucose monitoring, and foot care utilized the mean number of days. While items number 4 and footcare were utilized as reverse scaling, additional items assessed smoking as only the highest and lowest scaling values that were only answered by two categories (yes and no) were used. All scale scores range from zero to seven, with higher scores suggesting better self-management. Elaboration of the interpretation will be presented in the table below.

SCALE	DESCRIPTIVE VALUE	MEANING	INTERPRETATION
6.125 - 7.000	Truly Exceptional	Self-management behavior has been practiced in all the days of last week.	Exceptional Self-management
5.250 - 6.124	Excellent	Self-management behavior has been practiced for 6 days last week.	Excellent Self-management
4.375 - 5.249	Very Good	Self-Management behavior has been practiced for 5 days last week.	Very Good Self-management
3.500 - 4.374	Good	Self-Management behavior has been practiced for 4 days last week.	Good Self-management
2.625 - 3.499	Satisfactory	Self-Management behavior has been practiced for 3 days last week.	Satisfactory Self-management
1.750 - 2.624	Unsatisfactory	Self-Management behavior has been practiced for 2 days last week.	Unsatisfactory Self-management
0.875 - 1.749	Very Unsatisfactory	Self-Management behavior has been practiced for only 1 day last week.	Very Unsatisfactory Self-management
0.000 - 0.874	Poor	Self-management behavior has never been practiced.	Poor Self-management

RESULTS AND DISCUSSIONS

In the demographic analysis of the forty-eight respondents, the age distribution revealed that 35.4% fall within the 65-74 age group, while only 4.2% are between 35 and 44 years old. The gender distribution showed an equal representation of both sexes, with 50% each for males and females. Marital status indicated that 81.3% of respondents were married, 10.4% were widowed, and 8.3% were single. Notably, the findings suggested a significant association between marital status and weight gain, contributing to an increased risk of Type 2 Diabetes (T2DM).

Concerning monthly income, 35.4% of respondents reported earning less than five thousand pesos, while only 14.6% had a monthly income of fifteen thousand pesos and above. In terms of comorbidities, hypertension emerged as the predominant health issue, affecting 75% of respondents. Alcoholism or drug addiction was reported by 10.4%, gum disease by 2.1%, and vision problems by 8.3%. Other comorbidities included heart diseases (10.4%), kidney and liver diseases (6.3%), obesity (4.2%), foot problems (20.8%), and stroke (6.3%). Notably, none of the respondents reported having cancer, depression, or anxiety.

Regarding Body Mass Index (BMI), the majority of respondents (62.5%) had an average weight, 25% were overweight, 6.3% were obese, and 4.2% were underweight. These findings provide a comprehensive overview of the demographic characteristics and health conditions of the respondents, forming a crucial foundation for further analysis and interpretation in the context of Type 2 Diabetes management and prevention.

Table 1. Summary of Levels of Social Support in All Dimensions
N = 48

Dimension	Composite Mean	Descriptor	Interpretation	Rank
Social Support on Exercise	3.047	Often	Moderate Support Level	1
Social Support on Foot Care	2.975	Often	Moderate Support Level	2
Social Support in Diet	2.913	Often	Moderate Support Level	3
Social Support on BGM	2.836	Often	Moderate Support Level	4
Social Support on Smoking	2.271	Sometimes	Less Support Level	5
Overall Average	2.870	Often	Moderate Support Level	

Legend:

Scaling	Descriptor	Interpretation
3.25-4.00	Always	High Support Level
2.50-3.24	Often	Moderate Support Level
1.75-2.49	Sometimes	Less Support Level
1.00-1.74	Never	No Support at All

In the assessment of diabetes self-management across various dimensions, the overall result indicates a commendable level, with an average score of 4.907, categorized as "Very Good." This suggests a strong commitment and effectiveness in managing diabetes-related activities among the participants.

Breaking down the dimensions, self-management concerning smoking emerges as the most exemplary, achieving a top-tier ranking labeled as "Truly Exceptional." This result suggests an outstanding dedication to addressing and controlling smoking habits within the diabetic population.

Table 2. Levels of Diabetes Self-Management in All Dimensions

Dimension	Composite Mean	Descriptor	Interpretation	Rank
Self-Management on Smoking	6.71	Truly Exceptional	Exceptional Self-management	1
Self-Management on Exercise	4.990	Very Good	Very Good Self-management	2
Self-Management on Foot Care	4.508	Very Good	Very Good Self-management	3
Self-Management on Diet	4.339	Good	Good Self-management	4
Self-Management on BGM	3.990	Good	Good Self-management	5
Overall Average	4.907	Very Good	Very Good Self-management	

Legend:

Scaling	Descriptor	Interpretation
6.125-7.000	Truly Exceptional	Exceptional Self-management
5.250-6.124	Excellent	Excellent Self-management
4.375-5.249	Very Good	Very Good Self-management

3.500-4.374	Good	Good Self-management
2.625-3.499	Satisfactory	Satisfactory Self-management
b	Unsatisfactory	Unsatisfactory Self-management
0.875-1.749	Very Unsatisfactory	Very Unsatisfactory Self-management
0.000-0.874	Poor	Poor Self-management

On the other hand, self-management in the realms of diet and blood glucose monitoring (BGM) received comparatively lower ratings. Self-management on a diet attained a score of 4.339, categorized as "Good," indicating a generally satisfactory level but with room for improvement. Similarly, self-management on blood glucose monitoring (BGM) received a score of 3.990, also categorized as "Good," highlighting an area that may benefit from additional attention and enhancement.

The lower scores in diet and BGM self-management dimensions imply a potential need for targeted interventions or educational initiatives to bolster these aspects of diabetes self-management. Strategies focused on nutritional choices and meticulous blood glucose monitoring could contribute significantly to elevating overall diabetes management effectiveness.

Table 3 shows the relationship between the respondents' profiles and the level of social support. All, but one posed an insignificant association between variables. Data revealed that the p-value obtained when statistically treating the level of social support of the respondents against Alcoholism/ Drug addiction is .016.

Table 3. Relationship between the respondents' profile and Level of Social Support
N = 48

Alcoholism/ Drug Addiction and Level of Social Support	Chi-Square	10.578	.016	Reject null hypothesis	There is a significant relationship between the variables

Table 4 shows the relationship between the respondents' profiles and levels of diabetes self-management. Data revealed that the p-value obtained when statistically treating the respondents' self-management level against Alcoholism/ Drug Addiction, Obesity, and Stroke is all lesser than the 0.05 level of significance, specifically, .032, .022, and .039, respectively. This means that having a history or currently experiencing either of the following: Alcoholism/Drug Addiction, Obesity, and Stroke may influence how that individual manages and performs the different self-care practices.

Table 4. Relationship between the respondent's profile and level of diabetes self-management

N = 48

Variables	Statistical Treatment Used	Statistical Test Value	P-value	Decision	Interpretation
Alcoholism/ Drug Addiction and Level of Self-management	Chi-Square	12.441	.032	Reject the null hypothesis	There is a significant relationship between the variables
Obesity and Level of self-management	Chi-Square	25.233	.022	Reject the null hypothesis	There is a significant relationship between the variables
Stroke and Level of self-management	Chi-Square	16.970	.039	Reject the null hypothesis	There is a significant relationship between the variables

Table 5 further shows the correlation between the respondents' social support and diabetes self–management practices. Based on the results, there is a significant correlation between the two variables at a 0.001 level of significance. Social support was significantly associated with self-management as determined by weighted means on both groups for Exercise and foot care.

Table 5. Correlation between the respondents' social support and diabetes self–management practices

N = 48

Variables	Statistical Treatment Used	Statistical Test Value	P – value	Decision	Interpretation
Level of Social Support and Level of Self – Management	Spearman's rho	.480	.001	Reject null hypothesis	There is a significant relationship between the variables

CONCLUSION

The researchers found that an individual's social support is related to how they manage their disease based on the findings. As of 2022, Type 2 Diabetes is more common among middle-aged to older persons in Barangay Poblacion II, Tagbilaran City. According to data from the IDFA, 9th edition (2019), the

prevalence of T2DM rises beyond the age of 40. During this age, social support is more vital than ever for successful DM control. Meanwhile, social engagement was linked to positive health outcomes among older adults (Czaja, Moxley, & Rogers, 2021). Additionally, the researchers found that comorbidity conditions affect the level of management rendered by diabetic individuals because of limitations and shifts of priorities. It also serves as a competing demand on a patient for self-management resources on other health problems would reduce the time and energy left for diabetes self-care. Moreover, patients had experienced difficulty following their recommended exercise plan, even more so in managing concurrent comorbidities. Alas, one of the biggest challenges for health care with diabetic patients is their level of understanding of their existing condition. Being knowledgeable would help them realize how to start self-care management. More focus should be given to the different foot care practices and BGM as these have shown to have generally low scores. The importance of regular check-ups of blood glucose monitoring is of great significance in averting any long-term complications. Studies have proved that strict adherence to different self-management behaviors can delay or prevent the progression of complications associated with diabetes.

RECOMMENDATIONS

1. Establish a "BGM Brigade" at the Barangay Health Unit (BHU) to enhance self-management among diabetic individuals. This initiative involves sending text alerts based on individual data, prompting residents to undergo necessary laboratory tests for blood sugar monitoring. Additionally, display informative infographics within the BHU office outlining self-monitoring steps and the recommended frequency of blood glucose monitoring for public awareness.

2. Pursue budget allocation under Republic Act No. 7160, the Local Government Code of 1991, to fund the Senior Citizens' Health Facilities Enhancement Program. This funding will be utilized for procuring essential medical supplies and equipment, such as glucometers and blood pressure apparatus. Concurrently, implement a free training program for registered residents and volunteers covering fundamental self-management practices for diabetic individuals, including blood pressure measurement and blood glucose monitoring.

3. Advocate for the inclusion of the "Balay Alalay Program" in the Senior Citizens Ordinance (City Ordinance C-312) of Tagbilaran City. This program expands the existing benefits by incorporating free home visit check-ups during seniors' chosen days in their birth month, enhancing preventive care and support.

4. Integrate specific seminars or programs into the University of Bohol-College of Nursing's Community Health Nursing curriculum.

Collaborate with the Barangay Health Unit to tailor content addressing diverse self-management practices suitable for middle to older adults, moving beyond a generic approach.

5. Conduct health rallies led by the Barangay Health Unit, supported by the City Health Office, to demonstrate proper self-care management for diabetic individuals in the community. Advocate for telehealth consultations to ensure continuity of care, inviting private sector support for financial assistance and services. Establish a hotline for residents to direct health-related queries, enhancing accessibility to professional advice.

6. Launch a "buddy system" involving at least five individuals to provide substantial support for diabetic individuals in their self-management journey. Recognizing the predominantly senior demographic, enlist family members and significant others as the foundation of this program. Their roles include assisting in monitoring glucose levels, medication adherence, recording progress, and offering guidance on diet and nutrition management. This initiative aims to foster a sense of community and mutual support among diabetic individuals.

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