



Original Research Article

Knowledge of caretakers regarding management of patients diagnosed with Type II diabetes mellitus admitted in selected hospital, Kolar

Rajendra Prasad SM^{1*}, Zeanath C.J.¹, Vani R²

¹Dept. of Medical Surgical Nursing, Sri Devaraj Urs College of Nursing, Tamaka, Karnataka, India

²Dept. of Community Health Nursing, Sri Devaraj Urs College of Nursing, Tamaka, Karnataka, India



ARTICLE INFO

Article history:

Received 08-11-2023

Accepted 15-12-2023

Available online 19-02-2024

Keywords:

Metabolic disorder

Caretakers

Descriptive survey

Knowledge

ABSTRACT

Background & Aim : Diabetes mellitus is a metabolic disease, involving inappropriately elevated blood glucose levels. Patients are discharged from hospitals and rehabilitation centers in the continuum of care than ever before. It's been the vital role of home health care nurses is increasingly important as patients are discharged from hospitals and rehabilitation centers early in the course of illness and require more sophisticated nursing management at home. The study aimed to understand the Knowledge of Caretakers regarding the Management of patients Diagnosed with Type II Diabetes Mellitus by using a Structured Knowledge Questionnaire.

Materials and Methods: A descriptive survey design was adopted among 70 caretakers at R.L. Jalappa hospital & Research center by using a purposive sampling technique. After obtaining the IEC clearance and permission from the concerned authorities followed by data collection carried out by using validated structured Knowledge questionnaire. Data was analyzed using SPSS version 20.0 descriptive statistics & inferential statistics such as frequency, percentage and chi-square.

Results: The study results revealed that, 90.4% of caretakers had inadequate knowledge and remaining with moderate knowledge with 9.6% and none of them found to have adequate knowledge. There was found no significant association between the knowledge and selected socio demographic variables. Therefore the study highlighted that, it's a significant to emphasize the awareness regarding management of patients diagnosed with Type II Diabetes mellitus and to enhance the knowledge of caretakers.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Background

Diabetes mellitus (DM) is probably one of the oldest diseases known to man. It was first reported in Egyptian manuscript about 3000 years ago.¹ Type II Diabetes Mellitus is characterized by chronically elevated blood glucose and elevated blood Insulin. It is estimated that currently there are 57 million people with Diabetes in India and by 2030 is number will swell to 70 million.² This would mean every fifth Diabetic in the world would be an

Indian. Diabetes causes 6 deaths every minute and one in 20 deaths in the world is due to diabetes, every year it is estimated that 3.2 million peoples in the world die due to the Diabetes or its related causes³ Almost 90 to 95% Diabetes is of Type II or majority onset type, which affects people in their middle age, Type I or juvenile diabetes affects 70,000 children under age of 15 years every year. The major causes of increase in the incidence of diabetes are a sedentary lifestyle.⁴

Patients are released from hospitals and rehabilitation centers earlier in the continuum of care than ever before. Individuals with diabetes, either as a primary diagnosis or a co-morbid condition, are no exception to this trend.

* Corresponding author.

E-mail address: rajendraprasadsm143@gmail.com

(Rajendra Prasad SM).

This, combined with an end to the fee-for-service payment structure, has challenged home care clinicians to find effective ways of transitioning patients from an acute episode of illness to a return to the community. Recognizing the impact of diabetes as an independent risk factor is key to achieving favorable health outcomes.⁵

Non-communicable diseases (NCDs) have globally shown increasing impact on health status in populations with disproportionately higher rates in developing countries. NCDs are the leading cause of mortality worldwide and a serious public health threat to developing countries. The objective of the symposium was to understand the current situation of different NCDs public health programs and the current trends in NCDs research and policy, promote exchange of ideas, encourage scientific debate and foster networking, partnerships and opportunities among experts from different clinical, research, and policy fields.⁶

Diabetes causes damage to arteries as well as nervous system damage. This artery damage results in medical problems that are both common and serious such as Dizziness when standing, Cardiovascular disease, Amputations, Kidney disease, Eye disease and blindness, Sexual Dysfunction, Diabetic neuropathy, Stomach and bowel problems Dizziness when standing, Localized nerve failures (commonly known as Bells palsy). Where in most of the complications are preventable.⁷

A cross sectional study was conducted in Bengaluru to assess the knowledge regarding home care management of foot care among diabetic patients. 730 type II diabetic patients aged 60 years was undertaken. Mean age was 56.64 + 11.38 years, 67% were males. 15.35% of respondents had poor, 59.9% had average and 24.8% had adequate knowledge.⁸

The nurse has an important role to play in the management of diabetes mellitus which is a chronic disease, as she has the responsibility of teaching the self-injection of insulin to the patient and family members or significant others and she has to begin this as soon as the need for the insulin has been established and use written or verbal instructions and demonstration techniques for teaching the patients.⁹

The role of home health care nurses is increasingly important as patients are discharged from hospitals and rehabilitation centers early in the course of illness and require more sophisticated nursing management at home¹⁰ Home care nurses are the liaison among members of the health care team, patients, family members, and caregivers. These nurses are often the only professional who has a complete overview of a patient's medical regimen and, therefore, responsibility for the coordination of care.

A preliminary survey was undertaken by the researcher in the same setting to assess the knowledge of type II Diabetes Mellitus care takers on the prevention of complications. A total of 56 caretakers were surveyed out of which 17(30%)

them had a moderate knowledge level and 39(70%) of them presented with an inadequate knowledge level, none of them belonged to an adequate knowledge level.

Hence the present study was undertaken to assess the knowledge of Care Takers regarding the Management of patients diagnosed with Type II Diabetes Mellitus is essential element to consider and needs emphasis to create awareness.

2. Research Methodology

A Descriptive Survey design was adopted among 70 caretakers at R.L.Jalappa hospital & Research center by using a purposive sampling technique. After obtaining the IEC clearance and permission from the concerned authorities followed by data collection carried out by using validated structured Knowledge questionnaire which is translated to the local regional language of Kolar. Data was analyzed using SPSS version 20.0 descriptive statistics & inferential statistics such as frequency, percentage and chi-square.

3. Results

Description of demographic variables of the caretakers

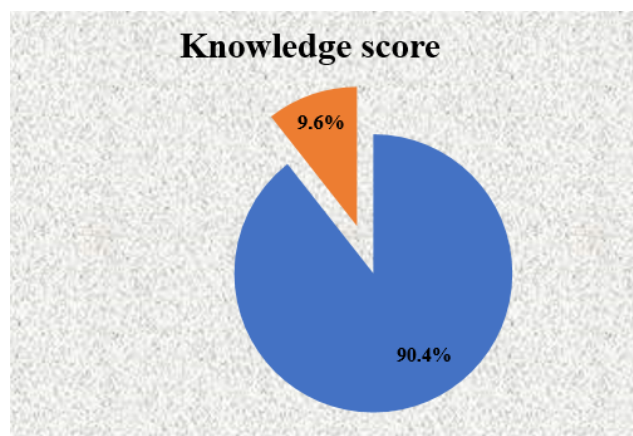


Figure 1: Distribution of sample according to the overall level of knowledge of caretakers N-70

4. Discussion

The promotion of Knowledge regarding the Management of patients diagnosed with type II Diabetes Mellitus is a very essential component to be recognized among caretakers. In this study, the Caretakers knowledge were assessed. Knowledge of caretakers regarding management of patients diagnosed with type II Diabetes Mellitus has been found to be Inadequate in our study compared to low in other studies.¹¹ Only a few studies have reported on knowledge regarding management of patients diagnosed with Type II Diabetes Mellitus. One multicenter study in Spain reported

Table 1: Frequency and percentage distribution of sample according to sociodemographic variables N=70

Sl.no.	Variables	Frequency	Percentage (%)
Age in years	a. 19-30	31	41.3
	b. 31-40	27	36
	c. 41-50	8	16.7
	d. 61 and above	4	6
Gender	a. Male	33	44.7
	b. Female	37	45.3
Religion	a. Christian	29	38.7
	b. Hindu	22	36
	c. Muslim	19	25.3
Family history of Type II DM	a. Yes	17	22.7
	b. No	27	42.3
	c. Yes how many years	26	35
Marital status	a. Single	34	47
	b. Married	35	51.7
	c. Widowed	01	1.3
Type of family	a. Nuclear	39	57.7
	b. joint	31	42.3
Place of residency	a. Urban	32	43.3
	b. Rural	38	56.7
Education status	a. Primary	22.0	29.0
	b. Secondary	16.0	24.3
	c. High school	32.0	46.7
Type of occupation	a. Government	15.0	20.0
	b. Private	39.0	58.7
	c. Self-employment	16.0	21.3
Income for month	a. Rs.6298-10495	34.0	45.0
	b. Rs.10496-15705	10.0	13.3
	c. Rs.15706-20991	26.0	41.7
Type of diet preferred for your Type II DM patients	a. Vegetarian	37.0	55.3
	b. Non vegetarian	33.0	44.7
Exposure to information on management of hypertension within 6 months	a. Yes	46.0	66.3
	b. No	03.0	6.0
	c. Yes through	21.0	27.7

Table 2: Association of knowledge scores with socio-demographic variables N= 70

SL. No	Variables	Below median<11	Above Median>11	df	Inference
Age in years	a. 19-40	42	16	1	χ^2 22.31 p-0.127,NS
	b. 41-61	06	06		
Gender	a. Male	26	08	1	χ^2 2-2.83 P-0.92,NS
	b. Female	22	14		
Religion	a. Hindu	32	01	1	χ^2 2-3.44 P-0.63,NS
	b. Muslim	16	21		
Family history of DM	a. Yes	16	01	1	χ^2 2-4.52 P-0.33,SS
	b. No	32	21		
Marital status	a. Married	26	08	1	χ^2 2-1.70 P-0.19,NS
	b. Unmarried	22	14		
Type of family	a. Nuclear	22	18	1	χ^2 2-6.23 P-0.01 SS
	b. Joint	26	06		
Place of residence	a. Urban b. Rural	24 24	08 14	1	χ^2 2-1.13 P-0.28 NS
Education status	a. Literate	24	10	1	χ^2 2-4.74 P-0.29 SS
	b. Illiterate	24	12		
Type of occupation	a. Government	20	12	1	χ^2 2-0.86 P-0.35 NS
	b. Private,	28	10		
	Self-employment				

Note:- P<0.05, NS- Not Significant, SS- Statistically Significant,. df- degree of freedom,

low mean care takers knowledge which is similar to our finding.

Similarly a Randomized control Trials in Sikkim on identifying the influence of socio-demographic variables on outcome of care takers knowledge on management of type II DM, among 200 care takers revealed that majority of people who are married and employs have more knowledge 75%, compare to those who are unmarried and illiterates 25%.¹² These findings are very consistent with the present study findings. Most of the studies found positive about the Knowledge regarding management of patients diagnosed with Type II Diabetes Mellitus.¹³ As the study was conducted in only one setting with limited sample size, further studies can be replicated to generalize the findings.

5. Conclusion

Knowledge of Caretakers regarding management of patients diagnosed with Type II Diabetes Mellitus found to be Inadequate. Hence its evident that, awareness and supportive interventions need to be emphasized regarding management of patients diagnosed with Type II Diabetes Mellitus among caretakers.

5.1. Implications of the study

1. *Nursing practice:* Nursing professionals play a key role in enhancing the knowledge of care takers regarding management and prevention of further complications.
2. *Nursing education:* The study emphasizes on significance of short-term in-service, Education program for nursed, peripheral health workers and for students to educate the family members regarding management.
3. *Nursing administration:* The nursing administrator can take part in developing protocols, standing orders regarding the health education program for the family members regarding management of care takers with Type II Diabetes Mellitus.
4. *Nursing research:* The study helps nursing researcher to develop appropriate health education tools for educating the care takers regarding management of Type II Diabetes Mellitus.

6. Source of Funding

None.

7. Conflict of Interest

None.

Acknowledgment

The authors would like to acknowledge the authorities of R. L Jalappa Hospital and Research Center, and study participants for their consent and participation for the study.

References

1. Cheng D. Prevalence, predisposition and prevention of type II diabetes. *Nutr Metab.* 2005;2:29. doi:10.1186/1743-7075-2-29.
2. Vermeire E, Wens J, Royen PV. Interventions for improving adherence to treatment recommendations in people with type 2 diabetes mellitus. *Cochrane Database Syst Rev.* 2005;18(2):3638. doi:10.1002/14651858.CD003638.pub2.
3. Association AD. American Diabetes Association Standards of Medical Care for patients with diabetes mellitus. *Diab Care.* 2002;26(1):33–50.
4. Bradshaw D, Groenewald P, Laubscher R. Initial burden of disease estimates for South Africa, 2000. *S Afr Med J.* 2003;93(9):682–8.
5. Van Rooijen A, Rheeder P, Becker PJ. Effect of exercise versus relaxation on haemoglobin A1c in black females with type 2 diabetes mellitus. *QMJ.* 2004;97(6):343–51.
6. International Diabetes Federation Africa Regional Meeting, Implementation of the United Nations Resolution on Diabetes (61/225) in Africa; 2009. Available from: <http://www.idf.org.za>.
7. Ogubanjo GA. Type 2 diabetes: An evidence-based approach to its management by the family practitioner. *Continuing Med Educ.* 2006;24(10):568–70.
8. Feld S. American Association of Clinical Endocrinologists (AACE) medical guidelines for the management of Diabetes Mellitus: The AACE System of intensive diabetes self-management. *Endocr Pract.* 2002;8(1):40–64.
9. Funnel MM, Brown TL, Childs BP. National standards for diabetes self-management education. *Diab Care.* 2009;32(1):87–94.
10. Fujimoto WY, Bergstrom RW, Boyko EJ. Type 2 diabetes and the metabolic syndrome in Japanese Americans. *Diabetes Res Clin Pract.* 2000;50:573–576.
11. Vallerand, Bohler C. international journal of cancer care Cancer Nursing: *Deborah A In J Cancer care.* 2007;30(1):31–7.
12. Belasco A, Barbosa D, Bettencourt AR, Diccini S, Sesso R. Quality of life of family caregivers of elderly patients on hemodialysis and peritoneal dialysis. *Am J Kidney Dis.* 2006;48(6):955–63.
13. Aung MN, Lorga T, Srikrajang J. Assessing awareness and knowledge of hypertension in an at-risk population in the Karen ethnic rural community, Thasongyang, Thailand. *Int J Gen Med.* 2012;5:553–61. doi:10.2147/IJGM.S29406.

Author biography

Rajendra Prasad SM, Nursing Tutor

Zeanath C.J., Professor and HOD

Vani R, Assistant Professor  <https://orcid.org/0000-0002-7460-8698>

Cite this article: Rajendra Prasad SM, Zeanath C.J., Vani R. Knowledge of caretakers regarding management of patients diagnosed with Type II diabetes mellitus admitted in selected hospital, Kolar. *Ann Geriatrics Educ Med Sci* 2023;10(2):46-50.