

Effectiveness Of Care Partner Programme on Knowledge Regarding Management of Diabetes Mellitus Among Spouses of Diabetic Patients

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Abstract—Background: Diabetes mellitus is a chronic metabolic disorder that requires lifelong self-management, and spouses often serve as the closest and most consistent source of support for patients. However, poor spousal knowledge of diabetes management can limit the support diabetic patients receive at home. A structured care partner programme may help bridge this knowledge gap. **Objectives:** This study aimed to assess the existing knowledge of spouses of diabetic patients regarding management of diabetes mellitus, determine the effectiveness of a care partner programme in improving this knowledge, and examine the association between post-test knowledge scores and selected demographic variables. **Methods:** A pre-experimental, one-group pre-test post-test design with an evaluative approach was adopted. Sixty spouses of diabetic patients from a selected urban community in Mangalore were enrolled using non-probability purposive sampling. Knowledge regarding diabetes management (covering general information, exercise, medication administration, diet, blood glucose monitoring, and foot care) was assessed before and after administration of a structured care partner programme, using a validated knowledge questionnaire. Data were analysed using descriptive statistics and a paired t-test, with chi-square testing used to assess associations with demographic variables. **Results:** At baseline, 51.67% of spouses had inadequate knowledge and 48.33% had moderately adequate knowledge, with none demonstrating adequate knowledge (mean pre-test score 10.21, 34%, SD 3.98). Following the care partner programme, the mean post-test knowledge score rose to 15.81 (52.7%, SD 3.67), a mean gain of 8.4 points that was statistically significant (paired $t = 20.04$, $p < 0.05$). Knowledge gains were observed across all content areas, with the largest improvements in medication administration (24.2%) and blood glucose monitoring (24.29%). No statistically significant association was found between post-test knowledge scores and selected demographic variables. **Conclusion:** The care partner programme was effective in significantly improving the knowledge of spouses of

diabetic patients regarding diabetes management, independent of demographic characteristics. Structured educational interventions targeting spouses/caregivers should be integrated into routine diabetes care to strengthen family-based support and improve patient outcomes.

Index Terms—Effectiveness, Care Partner Program, Knowledge, Diabetes Mellitus

I. INTRODUCTION

Diabetes mellitus is a chronic metabolic disorder characterized by inadequate insulin secretion, impaired insulin action, or both, resulting in hyperglycaemia. It has become a major public health concern, with increasing prevalence associated with sedentary lifestyle, unhealthy dietary practices, obesity, increasing age, hypertension, and family history. Poorly managed diabetes can lead to serious complications such as diabetic nephropathy, retinopathy, neuropathy, coronary heart disease, and stroke, adversely affecting quality of life.

The global burden of diabetes is increasing rapidly. The content reports that approximately 347 million people worldwide were estimated to have diabetes, with the number projected to increase to 552 million by 2030. In India, the number of people with diabetes was reported to have increased from 31.7 million in 2000 and was projected to reach 79.4 million by 2030. The WHO-ICMR NCD Risk Factor Surveillance study reported a diabetes prevalence of more than 11% among urban Indians.

Effective diabetes management requires lifelong adherence to medication, dietary modifications, physical activity, blood glucose monitoring, and other self-care practices. However, non-adherence to dietary and exercise recommendations has been reported to

range from 35–75% and 35–81%, respectively. Inadequate knowledge, lack of motivation and family support, negative health beliefs, and financial constraints may contribute to poor adherence and glycaemic control.

The family environment, particularly spousal support, can play an important role in diabetes self-management. The spouse is often the closest and most accessible source of emotional and practical support and may encourage medication adherence, healthy eating, physical activity, regular medical follow-up, and other self-care behaviours. A study conducted in Mangalore among 551 participants identified 71 known diabetic individuals and 45 newly diagnosed cases, highlighting the local burden of diabetes.

Despite the recognized importance of spouse involvement in chronic illness management, relatively few studies have focused on interventions aimed at improving the knowledge and supportive role of spouses of individuals with diabetes. Providing appropriate education to spouses may strengthen their ability to participate in diabetes care and support healthier behaviors. Therefore, the present study aims to assess the effectiveness of a care partner programme on knowledge regarding the management of diabetes mellitus among spouses of diabetic patients in a selected urban community of Mangalore.

1.1. Problem statement

A study to assess the effectiveness of care partner programme on knowledge regarding management of diabetes mellitus among spouses of diabetic patients in selected urban community at Mangalore.

1.2. Objectives of the Study

To assess the existing knowledge regarding management of diabetes mellitus, determine the effectiveness of care partner programme on knowledge regarding management of diabetes mellitus and find the association between post-test knowledge scores regarding management of diabetes mellitus with selected demographic variables.

II. METHODOLOGY

In view of the nature of the problem under study and to achieve the objectives, an evaluative approach and pre-experimental one group pre and post-test research design were adopted. The conceptual framework for

the study was derived from the Modified Imogene King's Goal Attainment model. The study was conducted in Mangaluru taluk, which has a population of 13,12,875 and consists of 26 Primary Health Centers. Lady Hill UPHC was selected for the study. It covers a population of 54,756. The study was conducted in Hoige bail area which comes under Lady Hill UPHC.

This study's sample comprised adults aged 25 years and above residing in the selected community area. A total of 60 participants were selected using purposive sampling technique. The data collection instruments included a sociodemographic Proforma with 10 items, and a structured knowledge questionnaire with 30 questions was used to assess the knowledge. A 45-minute structured educational class was conducted for the spouses of diabetic patients as part of the care partner programme, focusing on the management of diabetes mellitus. The content validation of the tool involved the assessment by 8 experts. The reliability assessment was conducted using Karl Pearson's correlation coefficient method. The structured knowledge questionnaire demonstrated a reliability coefficient of 0.78.

III. RESULT

3.1. Sociodemographic Characteristics

Majority of the spouses of diabetic patients 33.3% were above 55 years of age. Majority of the spouses (73.3%) were female, and most (60%) belonged to the Hindu religion. The majority (35%) have completed high school education, about 45% were housewives, and around one-thirds (33.3%) were married for 6-10 years. Majority of the spouses (33.3%) family monthly income was 9149-13873. The majority (38.3%) of the spouse's partner have diabetes for 1-5 years and approximately half (51.7%) were taking tablets for diabetes mellitus. Most of the spouse's (35%) source of information was through health personnel

3.2. Existing knowledge regarding management of diabetes mellitus

The study reveals that majority (51.67%) of the spouse had inadequate knowledge, 48.33% of the spouses had moderately adequate knowledge and none of spouses had adequate knowledge regarding management of diabetes. The pre-test mean knowledge score was 10.21(34%) with SD of 3.98.

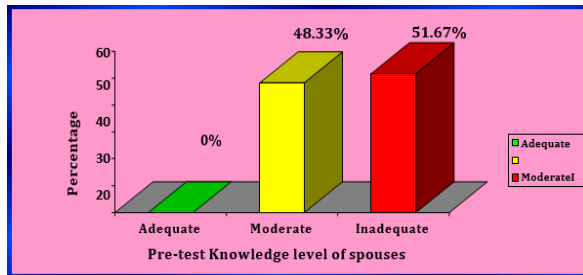


Fig 1: Column diagram depicting pre-test knowledge level of spouses of diabetic patients

3.3. Effectiveness of care partner programme on knowledge regarding management of diabetes mellitus

The mean knowledge score of spouses of diabetic patients increased from 10.21 (34%) in the pre-test (SD = 3.98) to 15.81 (52.7%) in the post-test (SD = 3.67) following the care partner programme. The mean difference in knowledge score was 5.60, with a calculated paired *t* value of 20.04, indicating a statistically significant improvement in knowledge at the 0.05 level. In the post-test, 81.67% of spouses had moderately adequate knowledge, 11.67% had adequate knowledge, and only 6.66% had inadequate knowledge regarding diabetes mellitus management. These findings indicate that the care partner programme was effective in improving the knowledge of spouses of diabetic patients regarding diabetes mellitus management.

Table 1: Comparison of pre-test & post-test knowledge scores of the spouses of diabetic patients

Test	Maximum possible Score	Min Score obtained	Max Score obtained	Respondents' knowledge		
				Mean	SD	Mean%
Pre test	30	4	19	10.21	3.98	34
Posttest	30	8	24	15.81	3.67	52.7

Table 2: Effectiveness of care partner programme regarding management of diabetes mellitus among spouses of diabetic patients

Test	Mean	SD	SD error Mean	Mean difference	t value
Pretest	5.60	2.16	0.27	8.4	20.04
Posttest					S

3.4. Association of post-test knowledge scores with selected demographic variables

Chi-square test was done to analyze the association between the post-test knowledge scores and the

selected demographic variables. The study findings show that, there is no association between the post-test knowledge scores and selected demographic variables. Hence the research hypothesis H_2 is rejected.

IV. DISCUSSION

The present study revealed that 51.67% of spouses of diabetic patients had inadequate knowledge and 48.33% had moderately adequate knowledge regarding diabetes mellitus management in the pre-test, while none had adequate knowledge. The pre-test mean knowledge score was 10.21 (34%) with a standard deviation of 3.98. This finding is supported by a study on hypoglycemia-related information seeking among informal caregivers of patients with type 2 diabetes, in which 32% of caregivers were unable to state any correct treatment measures, highlighting the need for appropriate health education regarding diabetes care.

Following the care partner programme, the mean knowledge score increased from 10.21 (34%) in the pre-test to 15.81 (52.7%) in the post-test. The calculated paired *t* value of 20.04 showed a statistically significant improvement in knowledge at the 0.05 level. This finding indicates that the care partner programme was effective in improving the knowledge of spouses regarding diabetes mellitus management.

In the post-test, 81.67% of spouses had moderately adequate knowledge, 11.67% had adequate knowledge, and only 6.66% had inadequate knowledge. These findings are supported by a study evaluating diabetes education programmes for older patients and their spouses, which reported significant improvements in spouses' knowledge and perceived involvement in care, along with reduced stress and improved metabolic control. The study concluded that diabetes education involving spouses can be an effective approach to strengthening their participation in the care of diabetic patients.

V. CONCLUSION

The present study concluded that the care partner programme was effective in improving the knowledge of spouses of diabetic patients regarding the management of diabetes mellitus. The significant improvement in post-test knowledge demonstrates the

potential of involving spouses as care partners in diabetes management. Strengthening the knowledge and participation of spouses through structured education may facilitate better support for patients in adopting appropriate self-care practices and preventing diabetes-related complications. Thus, incorporating spouse-focused education into nursing practice and community-based diabetes care may contribute to more effective family-centred management of diabetes mellitus.

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