International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 23s, 2025
https://theaspd.com/index.php

The Effectiveness of Awareness Program on Lifestyle Practices Among Type-2 Diabetic Patients

Priya.M[1], Anantkumar.P[2], Mital R[3], Hina R[4], Aparna P[5], Anjali R[6]
[1]Priya Mondal, Assistant Professor, Parul Institute of Nursing and Research, Parul University, Priya.mondal32474@paruluniversity.ac.in
[2]Anantkumar Patel, Assistant Professor, Parul Institute of Nursing,Parul University, anantkumar.patel20986@gmail.com
[3]Mital Rathva [210925102089], Parul Institute of Nursing, Parul University
[4]Hina Rathod [210925102090], Parul Institute of Nursing, Parul University
5Aparna Prajapati [210925102091], Parul Institute of Nursing, Parul University
[6]Anjali Raut [210925102092], Parul Institute of Nursing, Parul University.

ABSTRACT

Background: *High blood sugar levels caused by insufficient insulin production or improper insulin response define a set of metabolic illnesses collectively known as diabetes mellitus (DM). In order for cells to use glucose (sugar) from meals as an energy source, the pancreas secretes the hormone insulin. Glucose builds up in the blood and causes a host of health complications when insulin is either insufficient or cells become resistant to it.Type-2 diabetes mellitus (T2DM) requires sustained lifestyle modifications, yet populations often lack awareness. This study evaluated the effectiveness of awareness program.*

Methods: *A cross-sectional study of 100 T2DM patients assessed knowledge levels post-intervention using a self-structured questionnaire. Descriptive statistics and chi-square tests analysed associations between knowledge and demographics.*

Results: *85% of participants had "average" knowledge (scores 8–14), while only 1% achieved "good" knowledge (scores 15–20). No significant associations were found between knowledge levels and age, gender, education, occupation, or income ($p > 0.05$). Rural residents (95%) and manual laborers/farmers (82%) constituted the majority.*

Conclusion: *This research looked at the efficacy of a lifestyle education program for people with type 2 diabetes who lived in rural regions and had lower levels of education and income. Manual laborers and farmers made up the bulk of the participants, with ages ranging from 41 to 70. The program's outreach efforts were not enough to improve knowledge levels; in fact, just 1% demonstrated exceptional knowledge. Culturally appropriate, repetitious instruction for low-literacy rural people is recommended, while organized, iterative, and participatory techniques are suggested for the empowerment of diabetes patients.*

Keywords: *Type-2 diabetes, lifestyle modification, Hospitals, Awareness, Patients.*

INTRODUCTION

The inaugural WHO Global Report on Diabetes was released on April 7, 2016, which was designated as World Health Day (1). Diabetes has been documented in ancient texts and acknowledged as a severe condition; however, it does not appear to have been a common occurrence among physicians or healers. The increasing prevalence of this condition has had a significant impact on human health and development in the past few decades. Diabetes, cardiovascular disease, cancer, and chronic respiratory disease were targeted in the Political Declaration on the Prevention and Control of Noncommunicable Diseases (NCDs) at the United Nations High-Level Political Meeting in 2011. A global monitoring framework for noncommunicable diseases was endorsed by WHO member states in 2013, with nine targets to be achieved by 2025. The targets and indicators have a significant impact on diabetes and its main risk factors, including the reduction of exposure to hazardous diet and physical inactivity, the attainment of a zero increase in the prevalence of diabetes, the enhancement of access to treatment, and the reduction of premature mortality. Member States have established an ambitious objective to reduce premature mortality from NCDs, including diabetes, by one-third, attain universal health coverage, and provide access to affordable essential pharmaceuticals by 2030 as part of the 2030 Agenda for Sustainable Development.

Diabetes mellitus affects 77 million Indians, with T2DM comprising 90% of cases (IDF, 2021). Rural populations face unique challenges, including limited healthcare access and low health literacy (Shrivastava et al., 2016). While lifestyle modifications (diet, exercise) are cornerstone therapies, their adoption hinges on patient awareness (Adepu & Swamy, 2012). This study evaluates the impact of a

lifestyle awareness program on knowledge levels among rural T2DM patients, addressing a critical gap in community diabetes education.

Public knowledge of diabetes mellitus (DM) is low, and education on risk factors is crucial for reducing its prevalence. Saudis and South Africans have limited knowledge about DM risk factors and consequences. An effective young adult DM awareness campaign is needed, and regular feedback on nutritional behaviors is vital for improving diets.

METHODS

There were 100 patients with type 2 diabetes mellitus (T2DM) who participated in this post-interventional, cross-sectional research that was carried out at a particular hospital. The participants were recruited using convenience sampling. A organized lifestyle awareness program that included nutrition, physical exercise, and medication adherence was the intervention that was carried out. The information was gathered by means of a validated questionnaire consisting of twenty items, with Cronbach's α equal to 0.78. The scores on the questionnaire were classified as excellent (15–20), average (8–14), or bad (0–7). The characteristics that were considered to be demographic were age, gender, education level, profession, and income. In order to summarize the data, descriptive statistics such as frequency and percentage were used. Additionally, chi-square tests were utilized to evaluate the connections between the variables. A p-value of less than 0.05 was regarded to be statistically significant.

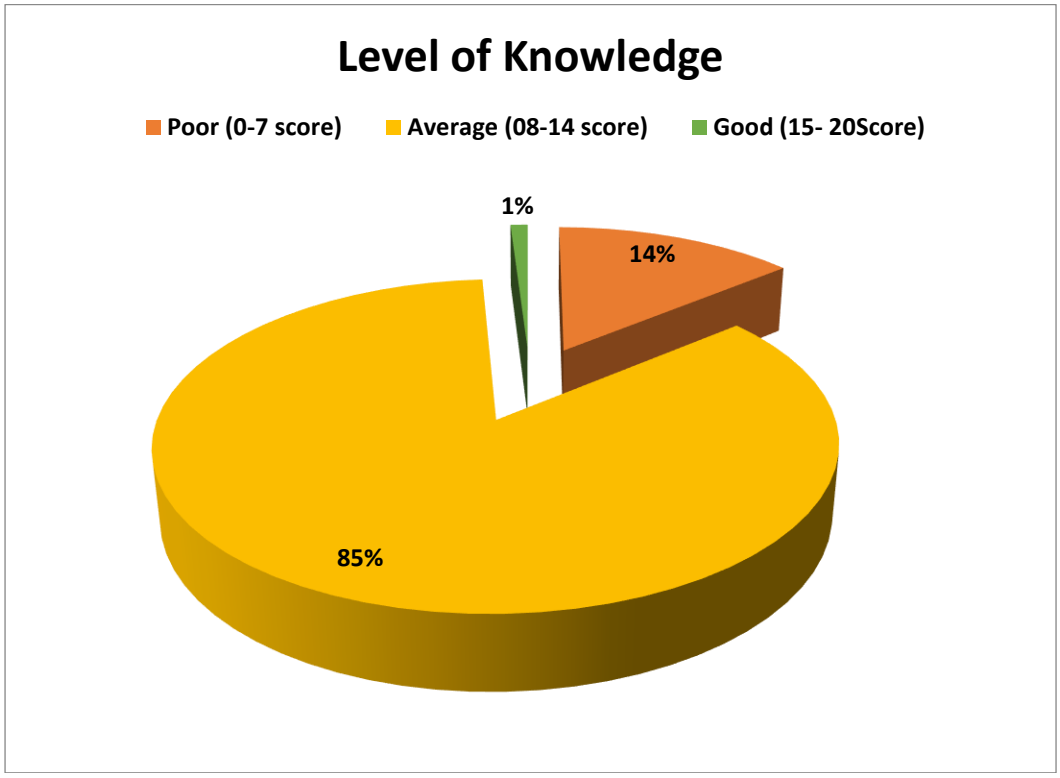
RESULTS

One hundred people with Type 2 diabetes were enrolled in a lifestyle education program, according to data from demographic tools. At 25%, the 61-70 age group had the most participation, followed by the 41-50 age group at 24%, the 51-60 age group at 23%, and the 30-40 age group at 22%. Below the age of 70, just 6% were found.

Only 27% had completed elementary school, leaving 41% completely illiterate.

A physically active rural workforce was indicated by the majority of manual workers (41%), including farmers (41%). Government and private sector jobs accounted for only 10% and 8%, respectively. The awareness campaign clearly targeted rural populations, since 95% of participants were from rural areas and just 5% were from urban districts. While 43% made between 10,000 and 20,000 rupees per month, 40% made between 21,000 and 30,000 rupees. Between 30,000 and 40,000 were the earnings of the remaining 17%. Earnings over ₹40,000 were not recorded. These results demonstrate that the campaign's focus was on low-income, rural, and educationally disadvantaged populations that would gain the most from structured health education and lifestyle changes.

.



According to the findings, the great majority of patients with type 2 diabetes (85%) had an average level of knowledge of lifestyle habits after participating in the awareness program. Fourteen percent of the sample had a low degree of understanding, with scores ranging from zero to seven. Only one percent of the participants showed that they had an excellent level of expertise by scoring between 15 and 20. According to these results, even if the awareness program may have had some effect, there is still a considerable need to increase the teaching component in order to assist patients in achieving a deeper and more practical grasp of optimal lifestyle habits for the treatment of diabetes.

Sr. No	Demographic Data	Category	Level of Knowledge			Chi-Value	df	p-Value
			Poor	Average	Good			
1	Age	30-40 years	06	16	00	10.759	8	2.16
		41-50 years	01	22	01			
		51-60 years	03	20	00			
		61-70 years	02	23	00			
		Above 70 years	02	04	00			
2	Gender	Male	04	47	00	4.486	2	0.106
		Female	10	38	01			
3	Educational Status	Not Educated	07	33	01	3.299	8	0.914
		Primary	03	24	00			
		Secondary	01	02	00			
		High Secondary	02	18	00			
		Graduate	01	08	00			
		Post graduate	00	00	00			

Association between Level knowledge score with selected demographic variables.

Demographic factors and Level knowledge score.The chi-square test was performed to assess the relationship between Type-2 diabetics' lifestyle knowledge and demographic characteristics. Since all p-values were larger than 0.05, none of the demographic characteristics correlated with knowledge scores. This shows that the awareness campaign generated similar knowledge across demographic groups. Lifestyle practice knowledge was not associated with age, gender, education, employment, location of residence, or monthly income ($p > 0.05$ for all). This suggests that the awareness program's knowledge effect was similar across socio-demographic categories. The program's minimal success is shown by the fact that just 1% of participants showed excellent knowledge. Educational treatments must be strengthened and tailored to improve Type-2 diabetes patients' comprehension and behavior, regardless of background.

DISCUSSION

A total of 100 sample with type 2 diabetes mellitus (T2DM) who were enrolled in a hospital-based lifestyle awareness program were part of the research. A validated questionnaire was used to gather information from the participants, who were recruited via convenience sampling. The following demographic variables were taken into account: age, gender, degree of education, occupation, and income. To describe the data, descriptive statistics were used.

Following the awareness session, the vast majority of patients (85%) exhibited an average level of understanding of lifestyle choices. A small percentage of the sample (14% to be exact) had a poor level of comprehension (zero to seven). With scores between 15 and 20, only 1% of participants demonstrated an exceptional degree of competence.

The chi-square test was used to see whether there was a correlation between the demographic variables and the lifestyle knowledge of people with type 2 diabetes. There was no correlation between any of the demographic variables and knowledge scores (all p-values were greater than 0.05). This proves that people of different demographics learned about the awareness campaign in the same way. Age, gender, level of education, occupation, place of residence, or monthly income were not correlated with lifestyle practice knowledge ($p > 0.05$ for all). It seems that the knowledge impact of the awareness training was consistent across group.

Given that just 1% of participants demonstrated exceptional knowledge, it is clear that the program had only a marginal impact. People with Type 2 diabetes, regardless of their socioeconomic status, need more

effective and individually targeted educational interventions to help them understand and manage their condition.

Overall, the program was effective in raising participants' level of awareness (average knowledge), but it fell short in fostering deep understanding. People with Type 2 diabetes, regardless of their socioeconomic status, need more effective and individually targeted educational interventions to help them understand and manage their condition.

CONCLUSION

The study assessed the effectiveness of a lifestyle education program targeting Type 2 diabetic patients in rural, less-educated, and lower-income areas. The majority of participants were aged 41-70, mostly manual labourers or farmers. Despite the program's outreach, knowledge levels remained suboptimal, with only 1% showing excellent knowledge. The study suggests structured, iterative, and participatory approaches to empower diabetic patients and recommends culturally adapted, repetitive education for rural low-literacy populations.

Ethical: Ethical Permission given by Parul University Ethical Committee a ethical number is PUIECHR/PIMSR/00/081734/82345.

Funding: There is no any involvement of specific funding all funds are self funded .

REFERENCES

1. Adepu, R., & Swamy, M. K. (2012). Development and evaluation of patient information leaflets. Indian Journal of Pharmaceutical Sciences, 74(4), 332–338.
2. International Diabetes Federation (IDF). (2021). Diabetes Atlas (10th ed.).
3. Makwana, P., & Mehta, A. (2013). Knowledge, attitude and practice regarding diabetes mellitus. Journal of Diabetes & Metabolism, 4(8), 1–5.
4. Shrivastava, S. R., et al. (2016). Rural diabetes prevalence: A cross-sectional study. Journal of Family Medicine and Primary Care, 5(1), 69–73.
5. Jolley DJ, Wright R, McGowan S, hickey MB, Camp Bell DA, Sinclair RD, Montgomery KC: preventing pressure ulcers with the Austrelian medical sheep skin: an open-label randamised controled trial.
6. Introduction | Pressure ulcers: prevention and management | Guidance [Internet]. NICE. [Cited 2019May10]. Available from: https://www.nice.org.uk/guidance/cg179/chapter/Introduction
7. Coping with cancer [Internet]. Causes and prevention of pressure sores | Coping with cancer | Cancer Research UK. 2019 [cited 2019May14]. Available from: https://www.cancerresearchuk.org/aboutcancer/coping/physically/skin-problems/pressuresores/causes-and-prevention
8. Lahmann NA, Halfens RJ, Dassen T, "Impact of prevention structures and processes on pressure ulcer prevalence in nursing homes and acute-care hospitals",Department of Nursing Science, Berlin, German. 2010 Feb; 16(1):50-6
9. Hentlin shiny ,Dissertation submitted to Rajiv Gandhi university of health science Bangalore ,Karnataka;2007
10. Ami Hommel , Karin B Bjorkelund , Karl-Göran Thorngren M, Kerstin Ulander. A study of a pathway to reduce pressure ulcers for patients with a hip fracture. Journal of orthopaedic nursing. 2007 Aug; 11(3-4).
11. Kwiczala-Szydłowska S, Skalska A, Grodzicki T. Pressure ulcer prevention--evaluation of awarness in families of patients at risk [Internet]. Przegladlekarski. U.S. National Library of Medicine; 2005 [cited 2019May10]. Available from: https://www.ncbi.nlm.nih.gov/pubmed/16786757
12. Eljedi A, Eldaharja T, Dukhan N. Effect of an educational program on a family caregivers prevention management of pressure ulcers in bedridden patients after discharge from hospitals in Palestine. International Journal of Medical Science and Public Health. 2015;4(5):600.
13. Chauhan VS, Goel S, Kumar P, Srivastava S, Shukla VK.The prevalence of pressure ulcers in hospitalised patients in a university hospital in India. Journal of Wound Care.2005 Jan ;14(1):36.
14. Alzaben, A. S., Bakry, H. M., Alnashwan, N. I., Alatr, A. A., Alneghamshi, N. A., Alshatowy, A., ... & Bawazeer, N. M. (2023). The influence of a diabetes awareness program on diabetes knowledge, risk perception, and practices among university students. Primary care diabetes, 17(4), 327-333.
15. Mollah, S., & Biswas, S. (2021). Effect of awareness program on diabetes mellitus: deterministic and stochastic approach. Journal of Applied Mathematics and Computing, 66(1), 61-86.