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Research Article

A Descriptive Study To Assess The Level Of Knowledge And Lifestyle Practices Among Adults With Diabetes Mellitus In A Selected Community Area

¹Gayathri P, ²Anitha. G, ³Sandhiya N, ³Nasreen K, ³Saranya K, ³Revathi H, ³Thamayanthi S, ³Suhaib Javed, ³Mohamed Jhon E

¹Nursing Tutor, Obstetrics and Gynecology, Dr.M.G.R.Educational and Research Institute, Chennai, Tamil Nadu, India.

²Associate professor, Community Health Nursing, Dr.M.G.R.Educational and Research Institute, Chennai, Tamil Nadu, India.

³Dr.M.G.R.Educational and Research Institute, Chennai, Tamil Nadu, India.

Author Designation: ¹ Nursing Tutor, ² Associate professor, ³ B.Sc. Nursing

Corresponding author: Gayathri P, Anitha. G

Abstract:

Introduction: Diabetes mellitus is a major public health concern and one of the leading causes of morbidity and mortality worldwide. Effective management of diabetes requires adequate knowledge of the disease and adherence to healthy lifestyle practices, including a balanced diet, regular physical activity, medication compliance, and routine monitoring of blood glucose levels. Assessing the knowledge and lifestyle practices among adults with diabetes mellitus is essential for planning appropriate educational and preventive interventions. **Aim:** To assess the level of knowledge and lifestyle practices among adults with diabetes mellitus in a selected community, to determine the correlation between knowledge and lifestyle practices, and to find the association between these variables and selected demographic characteristics. **Methods:** A quantitative research approach with a descriptive cross-sectional design was adopted. The study was conducted among 60 adults with diabetes mellitus residing in a selected community, selected by non-probability convenience sampling. Data were collected using a structured questionnaire comprising demographic variables, a self-structured 20-item knowledge questionnaire, and a 15-item lifestyle practices questionnaire. Descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (Chi-square test and Pearson's correlation coefficient) were used for analysis. **Results:** Regarding knowledge, 28 (46.67%) participants had an average level of knowledge, 24 (40.00%) had poor knowledge, and 8 (13.33%) had good knowledge. Regarding lifestyle practices, 34 (56.67%) had moderate practices and 26 (43.33%) had good practices, with none demonstrating poor practices. A statistically significant positive correlation was found between knowledge and lifestyle practices ($r = 0.3043$, $p = 0.0181$). Knowledge was significantly associated with age, monthly income, and type of treatment, while lifestyle practices were significantly associated with gender, occupation, monthly income, type of treatment, and source of health information. **Conclusion:** The study concluded that although most participants had moderate knowledge and moderate-to-good lifestyle practices regarding diabetes mellitus, notable gaps remained, highlighting the need for structured community-based health education to strengthen knowledge and promote healthier self-care practices. **Keywords:** antenatal diet, knowledge, attitude, primigravida, maternal nutrition.

Keywords: Diabetes mellitus, Knowledge, Lifestyle practices, Community, Health education, Self-management.

INTRODUCTION

Diabetes mellitus is one of the most common non-communicable diseases affecting people worldwide and has emerged as a major public health concern due to its rapid rise in prevalence, particularly in developing countries such as India. Urbanization, sedentary lifestyles, unhealthy dietary habits, and increasing rates of obesity have contributed to a growing burden of the disease among adults. Effective management of diabetes depends not only on medical treatment but also on adequate disease-related knowledge and consistent lifestyle practices such as balanced diet, regular physical activity, medication adherence, and routine blood glucose monitoring.

Inadequate knowledge and poor lifestyle practices among adults with diabetes can lead to serious complications, including cardiovascular disease, neuropathy, nephropathy, and retinopathy. Community-based assessment provides valuable insight into real-life awareness and self-care behaviours, helping nurses and healthcare professionals plan and deliver targeted educational interventions. Assessing the prevailing level of knowledge and lifestyle practices among adults with diabetes mellitus is therefore essential for strengthening community health education and improving diabetes outcomes.

AIM

To assess the level of knowledge and lifestyle practices among adults with diabetes mellitus in a selected community.

METHODOLOGY

A quantitative research approach with a descriptive cross-sectional research design was adopted to assess the level of knowledge and lifestyle practices among adults with diabetes mellitus in a selected community. Sixty adults with diabetes mellitus, aged 18 years and above, who met the inclusion criteria and consented to participate, were selected using a non-probability convenience sampling technique.

Data were collected using a structured questionnaire comprising three sections: demographic variables, a self-structured 20-item knowledge questionnaire covering the meaning, causes, signs and symptoms, risk factors, complications, diet and exercise, medication adherence, and prevention of diabetes (scored as poor 0-7, moderate 8-14, and good 15-20), and a self-structured 15-item lifestyle practices questionnaire covering dietary habits, physical activity, medication adherence, blood glucose monitoring, smoking and alcohol habits, foot care, and regular check-ups (scored as poor 0-5, moderate 6-10, and good 11-15). Content validity was established through expert review, and the reliability of the tool was confirmed prior to data collection.

Formal permission and informed consent were obtained prior to data collection, and confidentiality and anonymity of all participants were maintained throughout the study. Data were collected through face-to-face interviews and analysed using descriptive statistics.

Chi-square test to determine associations with demographic variables and Pearson's correlation coefficient to determine the relationship between knowledge and lifestyle practices, with statistical significance set at $p < 0.05$.

RESULT

Of the 60 adults with diabetes mellitus, the majority (61.67%) were above 50 years of age, and 63.33% were female. Nearly half (46.67%) had no formal education, and more than half (55.00%) were unemployed.

Regarding monthly income, 60.00% earned less than ₹10,000. Nearly half of the participants (48.33%) had been living with diabetes for more than five years, and the majority (75.00%) were on oral medication alone. More than half (55.00%) reported no family history of diabetes, and 38.33% obtained health information through television and social media. Regarding the level of knowledge about diabetes mellitus, 28 (46.67%) participants had an average level of knowledge, 24 (40.00%) had poor knowledge, and only 8 (13.33%) had good knowledge. Regarding lifestyle practices, 34 (56.67%) participants demonstrated moderate practices and 26 (43.33%) demonstrated good practices, with none exhibiting poor practices.

A statistically significant positive correlation was observed between knowledge and lifestyle practices ($r = 0.3043$, $p = 0.0181$), indicating that higher knowledge regarding diabetes mellitus was associated with better lifestyle practices. Chi-square analysis showed that the level of knowledge was significantly associated with age ($\chi^2 = 11.08$, $p = 0.0257$), monthly income ($\chi^2 = 14.65$, $p = 0.0055$), and type of treatment ($\chi^2 = 12.86$, $p = 0.0120$), but not with gender, educational status, occupation, duration of diabetes, family history, or source of health information. The level of lifestyle practices was significantly associated with gender ($\chi^2 = 5.83$, $p = 0.0157$), occupation ($\chi^2 = 15.82$, $p = 0.0004$), monthly income ($\chi^2 = 21.86$, $p < 0.001$), type of treatment ($\chi^2 = 7.83$, $p = 0.0200$), and source of health information ($\chi^2 = 8.22$, $p = 0.0164$), but not with age, educational status, duration of diabetes, or family history.

DISCUSSION

In the present study, 46.67% of diabetic adults had an average level of knowledge, 40.00% had poor knowledge, and only 13.33% had good knowledge regarding diabetes mellitus. This finding is consistent with Philip et al. (2025), who reported that a majority of diabetic patients had moderate knowledge regarding prevention of complications, and with Gedia et al. (2025), who found that most patients had only moderately adequate knowledge of self-care activities. These similarities suggest that inadequate knowledge remains a common problem among diabetic adults across different community and clinical settings, underscoring the need for continuous health education.

Regarding lifestyle practices, the present study found that 56.67% of participants had moderate practices and 43.33% had good practices, with none demonstrating poor practices. This is broadly comparable with

Packialakshmi et al. (2025), who reported that despite adequate knowledge of lifestyle modification, only a minority of participants demonstrated good lifestyle practices, and with Hussein et al. (2024), who observed that a majority of diabetic patients had inadequate lifestyle practices. Together with the findings of Peter et al. (2022), these results suggest that knowledge alone is insufficient to sustain healthy behaviours unless reinforced through continuous motivation, family support, and nurse-led counselling.

The present study also found a statistically significant positive correlation between knowledge and lifestyle practices ($r = 0.3043$, $p = 0.0181$), consistent with Chabungam et al. (2025) and Alsaidan et al. (2025), both of whom reported significant positive correlations between

diabetes-related knowledge and self-care or dietary practices. Knowledge was significantly associated with age, monthly income, and type of treatment, while lifestyle practices were significantly associated with gender, occupation, monthly income, type of treatment, and source of health information, a pattern broadly supported by Emmanuel et al. (2025) and Mekonnen et al. (2020), who similarly linked educational and socioeconomic factors to dietary and lifestyle practices among diabetic patients.

CONCLUSION

The study concluded that although a large proportion of adults with diabetes mellitus in the selected community had only moderate to poor knowledge of the disease, their lifestyle practices were predominantly moderate to good. The significant positive correlation between knowledge and lifestyle practices, together with the demographic associations identified, highlights the importance of continuous community-based health education, nurse-led counselling, and reminder-based follow-up to strengthen diabetes-related knowledge and promote sustained healthy lifestyle practices among adults with diabetes mellitus.

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Table 1: Frequency and percentage distribution of demographic variables of adults with diabetes mellitus. (N = 60)

Demographic Variables	F	%
Age (in years)		
31-40 years	12	20.00
41-50 years	11	18.33
Above 50 years	37	61.67
Gender		
Male	22	36.67
Female	38	63.33
Educational Status		
No formal education	28	46.67
Primary & secondary education	26	43.33
Graduate & postgraduate	6	10.00
Occupation		
Unemployed	33	55.00
Government employee	3	5.00
Private employee	24	40.00
Monthly Income		
Less than ₹10,000	36	60.00
₹10,001-20,000	19	31.67
Above ₹30,000	5	8.33
Duration of Diabetes		
Less than 1 year	10	16.67
1-5 years	21	35.00
More than 5 years	29	48.33
Type of Treatment		
Oral medication	45	75.00
Insulin therapy	10	16.67
Both oral & insulin therapy	5	8.33
Family History of Diabetes		
Yes	25	41.67
No	33	55.00
Others	2	3.33
Source of Health Information		
Newspaper & magazine	19	31.67
Television & social media	23	38.33
Poster & pamphlets	18	30.00

Table 2: Frequency and percentage distribution of the level of knowledge regarding diabetes mellitus among diabetic

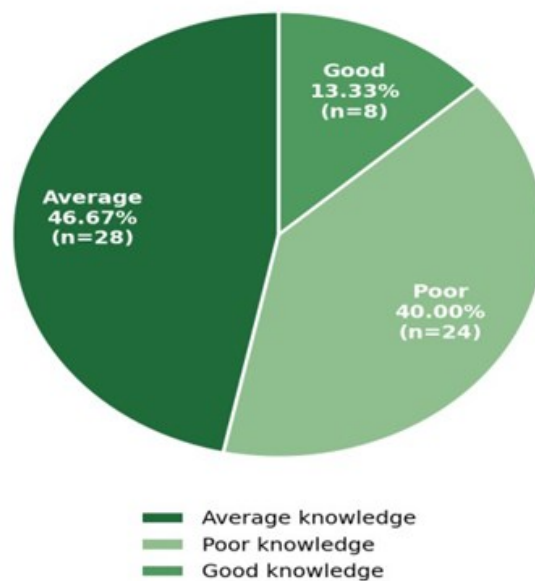
Level of Knowledge	F	%
Poor (0-7)	24	40.00
Moderate (8-14)	28	46.67
Good (15-20)	8	13.33

Table 2 shows that nearly half of the participants (46.67%) had an average level of knowledge, 40.00% had poor knowledge, and only 13.33% had good knowledge regarding diabetes mellitus.

Table 3: Frequency and percentage distribution of the level of lifestyle practice among diabetic adults. (N = 60)

Level of Lifestyle Practice	F	%
Poor practice (0-5)	0	0.00
Moderate practice (6-10)	34	56.67
Good practice (11-15)	26	43.33

Table 3 shows that more than half of the participants (56.67%) had moderate lifestyle practice, while 43.33% demonstrated good lifestyle practice, and none exhibited poor lifestyle practice.

Percentage distribution of level of knowledge regarding diabetes mellitus among diabetic adults (N = 60)**Percentage distribution of level of knowledge among diabetic adults (N = 60)**

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