

Assessment of Health Seeking Behaviour and Self-Efficacy of Diabetic Patients

Dr. Kiruba J C¹, Divya T S², Neena Velsier³

Abstract: Background: Diabetes mellitus is a growing global health concern requires effective self-management to prevent complications. Effective management of Diabetes Mellitus depends largely on patients' health-seeking behaviour and their level of self-efficacy. Health-seeking behaviour refers to the actions taken by individuals to maintain health, such as attending regular follow-ups, adhering to treatment, and seeking medical care when required. Self-efficacy refers to a person's confidence in their ability to manage disease-related tasks effectively. Poor health-seeking behaviour and low self-efficacy may result in poor glycaemic control, and increased complications. Methodology: The present study was intended to assess health seeking behaviour and self-efficacy of diabetes patients. The objectives of the study were to assess health seeking behaviour, level of self-efficacy, relationship between health seeking behaviour and self-efficacy, association between health seeking behaviour and selected socio demographic variables and association between self-efficacy and selected socio demographic variables of diabetic patients. A non-experimental Survey design was used, data were collected among 150 diabetic patients attending OPDs of Cherunniyoor PHC, Vettoor PHC, Government Varkala Taluk hospital and SivagiriSree Narayana Medical Mission hospital in Thiruvananthapuram district. The Summary of Diabetes Self-Care Activities (SDSCA) was used to assess the health seeking behaviour and Stanford Diabetes Management Self-Efficacy Scale (DSES) was used to assess self-efficacy of Diabetic patients. Results: The result revealed that among 150 diabetic patients, 54% have poor health seeking behaviour, 43% have moderate health seeking behaviour and 3% have good health seeking behaviour and regarding self-efficacy 39 % have low self-efficacy, 36% have moderate self-efficacy and 25% have high self-efficacy. The study found that moderate positive Pearson correlation between health-seeking behaviour and self-efficacy among diabetic patients ($r = .399, p < 0.01$), indicating that as self-efficacy scores increase, health-seeking behaviours also tend to improve. Conclusion: The study concludes that there was statistically significant association between health seeking behaviour and selected socio demographic variables such as religion (0.05), type of family (0.001), marital status (0.001), consumption of sugary drinks (0.001), consumption of fast foods (0.05), meal skipping behaviour (0.001) and dietary restrictions (0.01) among diabetic patients. Self-efficacy was significantly associated with type of family (0.01), dietary habits (0.05), dietary restrictions (0.001), engagement in physical activity (0.001) and family history (0.01) of diabetes mellitus. The study highlights that enhancing self-efficacy and promoting positive health-seeking behaviour are crucial for effective diabetes management and prevention of complications.

Keywords: health seeking behaviour, self-efficacy, diabetic patients

1. Introduction

Diabetes mellitus is a chronic metabolic disorder characterized by persistently high blood glucose levels resulting from defect in insulin secretion, insulin action or both leading to long term complications with failure of various organs. ¹Diabetes mellitus is the most frequently encountered metabolic disorder in the world, its Prevalence is growing more rapidly among developing countries, primarily due to rapid demographic epidemiological transitions occurring in these countries, because of urbanization, industrialization and globalization. ² Diabetes mellitus is a chronic multisystem disease characterized by hyperglycemia related to abnormal insulin production, impaired insulin utilization or both. Type 2 Diabetes Mellitus is a growing public health problem worldwide, largely influenced by lifestyle-related risk factors. ³

Diabetes imposes significant health and economic challenges globally, especially in low- and middle-income countries such as India. An estimated 537 million adults of 20 -79 years were living with diabetes worldwide in 2021, of which 14% were from India, the country with the second largest number of people with diabetes in the world. This number is projected to increase by 68% (124.9 million) over the next 25 years. More than half (53.1%) of people with diabetes in India are unaware of their condition, putting them at risk of developing complications. Every year, about 0.6 million people die from diabetes in India. This is the third-highest number in the world. The average direct cost of diabetes treatment was INR 21,000 in India. A substantial proportion (70%) of these costs

was incurred by patients through out-of-pocket spending. The above findings underscore the importance of the prevention of diabetes to control the health and economic burden of diabetes in India. ⁴

India is regarded as the diabetes capital of the world as it has the highest number of people living with diabetes, which is estimated to be 101 million, or 11.4% of the country's population. Diabetes is a major public health problem in India, with increasing prevalence in both urban and rural areas due to rapid urbanization, economic development, and lifestyle changes. The prevalence of diabetes varies across different states and regions of India. The highest rates reported in Goa (26.4%), Puducherry and Kerala (25%). The main risk factors for diabetes in India are age, body mass index (BMI), waist-hip ratio, low physical activity, and family history of diabetes. Diabetes affects people in India at a younger age than in other countries, and about 36% of all diabetics in India are younger than 45 years. Diabetes can cause serious complications, such as blindness, kidney failure, heart attacks, stroke, and lower limb amputation. Diabetes is also associated with other metabolic non-communicable diseases, such as hypertension and obesity, which are prevalent among 35.5% and 40% of the Indian population respectively. ⁵

Type2 diabetes mellitus places a significant burden on individuals, their families, and healthcare systems, underscoring the pressing need to identify interventions for optimal diabetes care. Even though there are more treatment options available, more people are developing health problems caused by diabetes. Moreover, a substantial portion

of type 2 diabetes mellitus patients may eventually require insulin due to inadequate blood glucose control. Without proper treatment and management, individuals with type 2 diabetes mellitus face potentially life-threatening complications impacting them physically, socially, and psychologically. These complications can be categorized as acute or chronic, with acute ones including hypoglycemia, hyperglycemia, or infections, while long-term complications involve macrovascular or microvascular issues such as stroke, cardiovascular disease, retinopathy, neuropathy, and nephropathy. Insufficient self-care and the daily challenges of managing diabetes not only contribute to short- and long-term physiological complications but also correlate with diminished quality of life and psychological distress.⁶

2. Material and Methods

Study design

This study adopted a quantitative research approach with a descriptive design to assess the health seeking behaviour and self efficacy of diabetic patients.

Study setting

The present study was conducted in selected OPDs of Cherunniyoor PHC, Vettoor PHC, government Varkala Taluk hospital and SivagiriSreenarayana Medical Mission Hospital in Thiruvananthapuram district. Cherunniyoor PHC and vettoor PHC is located in varkala taluk with departments of general OPD, NCD clinic and antenatal care services. Varkala taluk hospital comprises 105 beds with OPD departments including general medicine, general surgery, pediatrics, obstetrics & gynaecology, orthopedics, ophthalmology, and ENT. SivagiriSree Narayana Medical Mission hospital is located in Varkala, this is a multi-specialty charitable hospital under the Sivagiri Dharma Sanghom Trust. It is a 350 bedded hospital with OPD departments of general medicine, cardiology, neurology, gastroenterology, nephrology, pulmonology, pediatrics, obstetrics & gynaecology, orthopedics, ENT, ophthalmology, dermatology, dentistry, and psychiatry.

Participants

In the present study the population consists of diabetic patients aged 30 -80 years attending OPDs of selected hospitals of Thiruvananthapuram.

Inclusion criteria

- Individual who have been diagnosed with Type 2 Diabetes Mellitus.
- Those who are willing to participate in the study.
- Individuals who are able to read and write Malayalam.

Exclusion criteria

- Individuals with known cognitive impairment.
- Individuals suffering from severe illness.

Variables

Research variables

The research variables used in the present study are health seeking behaviour and self-efficacy of diabetic patients.

Socio demographic variables

The socio-demographic variable used in the present study are age, gender, religion, educational status, occupation, type of family, marital status, monthly family income, dietary habits, meal skipping behaviors, dietary restrictions, hours of sleep, regular physical exercise, family history of diabetes and BMI.

Sample size

Sample size were calculated using the formula;

N-sample size

p- prevalence

q- complement of prevalence

d-allowable error

$N = 4pq/d^2$ with $p = 75$, $q = 100-75 = 25$ and $d = 7.5$

The calculated sample size – 150

Statistical method

Data were analyzed using descriptive statistics (frequency, percentage, mean and standard deviation) to assess the health seeking behaviour and self efficacy of diabetic patients and inferential statistics (chi-square test, pearson correlation coefficient test) were used to assess the association between health seeking behavior, self- efficacy and diabetes mellitus and selected socio-demographic variables.

Ethical considerations

Ethical clearance was obtained from the Institutional Ethical Committee of SivagiriSree Narayana Medical Mission College of Nursing, Varkala. Formal permission was secured from the Medical superintendents and Medical Officers of the respective study settings, including Cherunniyoor PHC, Vettoor PHC, Government Varkala Taluk Hospital, and SivagiriSree Narayana Medical Mission Hospital, Thiruvananthapuram. Participants diagnosed with Type 2 Diabetes Mellitus were clearly informed about the purpose, nature, and benefits of the study. They were assured regarding the confidentiality of their responses and that their identity would be kept anonymous. Written informed consent was willingly obtained from each participant prior to their inclusion in the study.

Data collection process

The investigators introduced themselves to the participants and explained the objectives of the study to each individual. Confidentiality was ensured, and written informed consent was obtained from the selected samples. Data were collected from 150 patients diagnosed with Type 2 Diabetes Mellitus attending the Outpatient Departments (OPDs) of Cherunniyoor PHC, Vettoor PHC, Government Varkala Taluk Hospital, and SivagiriSree Narayana Medical Mission Hospital by using a convenience sampling technique. The data were gathered using a structured socio-demographic proforma, the Summary of Diabetes Self-Care Activities (SDSCA) scale to measure health-seeking behavior, and the Stanford Diabetes Management Self-Efficacy Scale (DSES) to assess self-efficacy. The data collection process was systematically completed within the designated timeframe and concluded by thanking each participant for their cooperation and valuable time.

3. Results

Section I: Socio demographic variables

Socio demographic variables of diabetes patients reveals that

- 1) Among diabetic patients 77% of diabetic patients belongs to age group 51-74, 12 % of Diabetic patients belongs to age group of ≥ 75 , 8% of diabetic patients belongs to age Group of 36-50 year years and 3 % of diabetic patients belongs to age group of ≤ 35 years.
- 2) In this study 68% diabetic patients were females and 32% of diabetic patients were males.
- 3) Based on education 56% diabetic patients had primary education, 23% of diabetic patients had higher secondary education, 14% of diabetic patients had no formal education and 7% of diabetic patients had graduation and above.
- 4) Based on occupation 60% of diabetic patients were unemployed, 13% of diabetic patients were private employees, 11% of diabetic patients were self-employees, 11% of diabetic patients were daily wagers and 5% of diabetic patients were government employees.
- 5) Among diabetic patients 69% of diabetic patients belongs to Hindu, 28% of diabetic patients Belongs to Muslim and 3% of diabetic patients belongs to Christian.
- 6) In this study 74% of diabetic patients belongs to nuclear family, 21% of diabetic patients belongs to joint family and 5% of diabetic patients belongs to extended family.
- 7) Based on marital status 66% of diabetic patients were married, 16% of diabetic patients were single, 16% of diabetic patients were widowed, 1% of diabetic patients were divorced and 1% of diabetic patients were separated.
- 8) In this study 78% of diabetic patients had monthly income below Rs.10,000, 19% of diabetic patients had monthly income between Rs.10,001-20,000, 3% of diabetic patients had monthly income between Rs.20,001-30, 000 and 0% of diabetic patients had monthly income above Rs.30,001.
- 9) Regarding consumption of fast foods 85% of diabetic patients doesn't consume fast foods, 13% of Diabetic patients consuming fast foods 1-2 times a day and 2% of diabetic patients Consuming fast foods more than 2 times a day.
- 10) Based on consumption of sugary drinks 56% of diabetic patients doesn't consume sugary drinks, 35% of diabetic patients consuming sugary drinks 1-2 times a day and 9% of diabetic patients consuming sugary drinks more than 2 times a day.
- 11) While considering dietary habits 58% of diabetic patients were following mixed diet, 23% of diabetic Patients were non- vegetarian and 19% of diabetic patients were vegetarian.
- 12) While considering meal skipping behaviour 54% of diabetic patients doesn't have meal skipping behavior, 35% of diabetic patients occasionally skip meals and 11% of diabetic patients frequently skip meals.
- 13) Based on dietary restrictions 51% of diabetic patients have dietary restrictions and 49% of diabetic patients doesn't have dietary restrictions.

- 14) In this study 37% of diabetic patients sleeps <5 hours per day, 32% of diabetic patients sleeps 7-8 hours per day 23% of diabetic patients sleeps 5-6 hours per day, and 8% of diabetic patients sleeps >8 hours per day.
- 15) Based on engagement in physical activity 57% of diabetic patients never engage in physical activity, 28% of diabetic patients engage in physical activity <30 minutes per day, 10% of diabetic patients engage in physical activity 30 minutes- 1 hours per day and 5% of diabetic patients engage in physical activity >1 hours per day.
- 16) 5% of diabetic patients are underweight. In this study 63% of diabetic patients had family history of diabetes mellitus and 37% of diabetic patients had family history of diabetes mellitus.
- 17) Based on Body Mass Index 51 % of diabetic patients have normal BMI, 35% of diabetic patients are overweight, 8 % of diabetic patients are obese

Section II: Association between health seeking behavior and diabetic patients

The chi-square values shows that there was statistically significant association between SDSCA score and religion, type of family, marital status, consumption of sugary drinks, , consumption of fast foods, meal skipping behavior, dietary restrictions ($p < 0.05$) among diabetic patients.

Section III: Association between self – efficacy and diabetic patients

The chi-square values shows that there was statistically significant association between DSES score and type of family, dietary habits, dietary restrictions, engagement in physical activity, family history of diabetes mellitus ($p < 0.05$) among diabetic patients.

Section IV: Level of health seeking behaviour of diabetic patients

Table 1: Distribution of diabetic patients based on health seeking behavior, (N=150)

Health seeking behavior	f	%
Poor	81	54%
Average	65	43%
Good	4	3%

Table shows distribution of diabetic patients based on health seeking behavior Among diabetic patients 54% have poor health seeking behavior, 43% have moderate health seeking behavior and 3% have good health seeking behavior.

Section V: Level of self-efficacy of diabetic patients

Table 2: Distribution of diabetic patients based on self-efficacy, (N=150)

Self- Efficacy	f	%
Low	58	39%
Moderate	54	36%
High	38	25%

Table shows distribution of diabetic patients based on self – efficacy. In this study 39 % have low self-efficacy, 36% have moderate self-efficacy and 25% have high self-efficacy.

Section VI: Relationship between health seeking behavior and self-efficacy of diabetic patients

Table 3: Correlation of health seeking behaviour with self-efficacy, (N=150)

Health seeking behavior	Self-Efficacy			r	p
	Low	Moderate	High		
Poor	40	29	12	0.399**	0.01
Average	17	24	24		
Good	1	1	2		

Table shows correlation of health seeking behavior with self-efficacy, the study found a statistically significant, moderate positive Pearson correlation between health-seeking behavior and self-efficacy among diabetic patients ($r = .399$, $p < 0.01$), indicating that as self-efficacy scores increase, health-seeking behaviors also tend to improve.

4. Discussion

The first objective in the study was to assess the health seeking behavior of diabetic patients. The result showed that out of 250 samples 54% diabetic patients have poor health seeking behavior, 43.3% diabetic patients have moderate health seeking behavior and 2.7% diabetic patients have good health seeking behavior. The above findings were supported by a cross-sectional study conducted by Muluken Mengiste et al. (2021) among 423 diabetic patients in Ethiopia to assess health information-seeking behavior. The data were collected via structured questionnaires and in-depth interviews. The results showed that a majority of participants exhibited low health information-seeking behavior, with prevalence rates significantly lower in patients with less education.

The second objective of the study was to assess level self-efficacy regarding the management of Type 2 Diabetes Mellitus among diabetic patients. The result showed that out of 250 samples 38.7% of diabetic patients have low self-efficacy, 36% of diabetic patients have moderate self-efficacy and 25.3% of diabetic patients have high self-efficacy. The above findings were supported by a descriptive cross-sectional study conducted by Murugan et al. (2024) to assess self-management efficacy among 432 South Indian adults by Diabetes Management Self-Efficacy Scale (DMSES). The results revealed that 37.5% of the participants suffered from low self-efficacy identifying low confidence as a primary barrier to successful diabetes management.

The third objective of the study was to determine the relationship between health-seeking behavior and self-efficacy in the management of Type 2 Diabetes Mellitus the analysis revealed a statistically significant, moderate positive Pearson correlation ($r = .399$, $p < .01$) between the two variables, indicating that higher levels of self-efficacy are associated with more proactive health seeking behaviors among the 150 participants. The above findings were supported by a cross-sectional study conducted by Kumar et al. (2023) in Ernakulam to assess the correlation between self-care agency and treatment seeking among 200 patients with Type 2 Diabetes. The results revealed a significant positive correlation ($r = .42$, $p < .01$), suggesting that individuals who actively sought medical information and regular check-ups

demonstrated higher confidence in managing their glucose levels.

The fourth objective of the study was to assess the association between health seeking behavior and selected socio demographic variables. The chi-square values shows that there was statistically significant association between SDSCA score and religion, type of family, marital status, consumption of sugary drinks, consumption of fast foods, meal skipping behavior, dietary restrictions and other selected socio demographic variables have no significant association. The above findings were supported by a qualitative and quantitative study conducted by International Health and Human Rights (2021) in Uganda. The researchers used semi-structured interviews to determine health-care seeking behavior. The study concluded that social living conditions, family organization, gender, marital status significantly influenced the frequency and quality of health-seeking behavior among diabetic patients

The fifth objective of the study was to assess the association between self-efficacy and socio demographic variables. The chi-square values shows that there was statistically significant association between DSES score and type of family, dietary habits, dietary restrictions, engagement in physical activity, family history of diabetes mellitus and there is no association between other selected socio demographic variables.

The above findings were supported by a multi-state study conducted by Sharma et al. (2023) in Bangalore to examine predictors of self-efficacy among 1,500 individuals. The chi-square analysis indicated that dietary habits, engagement in physical activity, and family support systems were statistically significant for high self-efficacy.

The above findings were supported by a cross-sectional study conducted by Shanti et al. (2024) in Thrissur to assess the relationship between health literacy and self-efficacy among 310 middle aged adults by using the Health Literacy Survey. The results demonstrated that patients with better information-seeking behavior possessed significantly higher self-efficacy, confirming that low health-seeking behavior is intrinsically linked to diminished confidence in disease management.

5. Conclusion

Diabetes mellitus is a chronic metabolic disorder characterized by persistent hyperglycaemia due to defects in insulin secretion, insulin action, or both. The present study on the assessment of health seeking behaviour and self-efficacy among diabetic patients revealed that many individuals had poor health seeking behaviour and low self-efficacy.

Among the 250 samples, 39% had low self-efficacy, 36% had moderate self-efficacy, and 25% had high self-efficacy. Regarding health seeking behaviour, 54% showed poor behaviour, 43% had moderate behaviour, and only 3% had good behaviour.

The study concludes that self-efficacy and health seeking behaviour are influenced by factors such as education, family support, healthcare guidance, and participation in awareness

programmes. Good health seeking behaviour and strong self-efficacy play an important role in early screening, preventive care, and maintaining a healthy lifestyle to prevent complications of diabetes

References

- [1] American Diabetes Association. Diagnosis and classification of diabetes mellitus. *Diabetes Care*. 2014 Jan;37(Suppl 1): S81-90. Available from:
- [2] Chandalia HB, Das AK, India I. RSSDI textbook of diabetes mellitus. New Delhi: Jaypee Brothers Medical Publishers; 2012.
- [3] Skyler JS, Bakris GL, Bonifacio E, Darsow T, Eckel RH, Groop L, et al. differentiation of Diabetes by Pathophysiology, Natural History, and prognosis. *diabetes*. 2016 Dec 15;66(2):241–55.
- [4] Oldenburg B et al. (2023). Knowledge of Diabetes among Adults at High Risk for Type 2 Diabetes in the Trivandrum district of Kerala, India. *Diabetology*, 4(1), 76–85. Available from: <https://doi.org/10.3390/diabetology4010009>
- [5] Anjana RM, Unnikrishnan R, Deepa M, Pradeepa R, Tandon N, Das AK, et al. metabolic non-communicable disease prevalence in India: ICMR-INDIAB cross-sectional (Phase 1) study. *The Lancet Diabete & Endocrinology*. 2023 Jul;11(7):474-489. Available from [https://www.thelancet.com/journals/landia/article/PIIS2213-8587\(23\)00119-6/fulltext](https://www.thelancet.com/journals/landia/article/PIIS2213-8587(23)00119-6/fulltext).
- [6] Ghimire S, Pradhan PMS, Paudel S, Prasai Mithra P, Thapa J. Health-related quality of life of patients with type 2 diabetes mellitus in central Nepal: a cross-sectional study. *BMC Public Health*. 2018 Oct 23;18(1):1261. Available From: <https://doi.org/10.1186/s12889-018-6178-y>.