

This Correlational Study Evaluated the Knowledge and Practices Related to Foot Care among Patients with Diabetes in Selected Hospitals in Aluva, with the Aim of Developing a Video-Assisted Program

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Abstract

Diabetes mellitus is a major public health problem, and taking care of the feet is very important to avoid problems. This study aimed to determine the extent of knowledge of foot care among patients with DM in certain hospitals and how well they followed the advice they received. This information was used to create a video-assisted educational program.

The study's goals were to determine the extent of foot care knowledge and practice, examine the association between knowledge, practice, and certain demographic variables, and determine the association between knowledge and practice among patients with diabetes. The study was conducted on 40 patients with diabetes who were chosen on purpose at Carmel Hospital in Aluva. A structured, self-administered questionnaire was used to collect data.

The results showed that 83% of the participants had good knowledge of foot care, 15% had average knowledge, and 2% had poor knowledge. On the other hand, only 3% showed good practice, 70% showed average practice, and 27% showed bad practice. There was no statistically significant correlation between knowledge and practice ($p > 0.05$). There was no significant link between knowledge and demographic variables; however, there was a significant link between practice and smoking status.

The study shows that there is a gap between what people know and what they actually do, which indicates that structured educational programs that focus on changing behavior are needed. A program that uses videos may help patients with diabetes take better care of their feet. Keywords: diabetic foot care, knowledge, practice, correlation, video-assisted program

Introduction

Diabetes mellitus is a rapidly growing global health issue that affects millions of people worldwide. India has a high prevalence of diabetes, and many people are at risk of developing complications from the disease.

Foot problems, such as ulcers, infections, and even amputation in severe cases, are among the most serious complications of diabetes. A significant proportion of individuals with diabetes are estimated to develop foot ulcers during their lifetimes. These problems not only make people sick and raise healthcare costs, but also make life a lot worse.

Foot care is an important part of managing diabetes. Regularly checking your feet, keeping them clean, wearing the right shoes, and identifying problems early can all help you avoid serious problems. However, even though they know how to care for their feet, many patients do not do it consistently.

In places like Aluva, where diabetes is becoming more common, it is important to examine both knowledge and practice when it comes to foot care. Understanding this relationship can facilitate the development of targeted interventions. Consequently, the current study focused on assessing the relationship between knowledge and practice, with the objective of creating a video-assisted educational program to enhance patient outcomes.

Need For The Study

Diabetic foot problems are the main reasons for hospitalization and disability in people with diabetes. Many patients develop foot ulcers, which can result in infections and amputations if not treated properly. Lack of awareness and poor self-care habits lead to these problems. Even when patients are aware of foot care, they often struggle to apply that

knowledge in their everyday lives. It is important to evaluate both knowledge and practices to identify gaps and create suitable educational strategies.

This study is particularly relevant in the local context, as it aims to generate evidence that can support the development of a video-assisted educational program to enhance patient awareness and improve foot care practices.

Methodology

Research Approach

A quantitative research approach was adopted to systematically assess the relationship between knowledge and the practice of diabetic foot care.

Research Design

A correlational research design was used to examine the association between knowledge and practice among patients with diabetes.

Setting

The study was conducted at Carmel Hospital in Aluva.

Population

The target population consisted of patients with diabetes who visited the Carmel Hospital in Aluva.

Sample and Sampling Technique

A sample of 40 patients with diabetes was selected using purposive sampling.

Inclusion Criteria

Patients diagnosed with diabetes mellitus
Both male and female patients
Patients willing to participate
Patients able to understand the questionnaire

Exclusion Criteria

Non-diabetic individuals
Patients unwilling to participate
Patients with severe cognitive or mental impairment

Variables

Independent Variable: Knowledge regarding diabetic foot care

Dependent Variable: Practice regarding diabetic foot care

Hypothesis

H₀: There is no significant correlation between knowledge and practice

H₁: There is a significant correlation between knowledge and practice

Data Collection Tool

Data were collected using a structured, self-administered questionnaire created by the researchers.

The tool included:

Section A: Demographic data (10 items)

Section B: Knowledge assessment (15 items)

Section C: Practice assessment (15 items)

Scoring Criteria

Knowledge: Poor (0–8), Average (9–11), Good (12–15)

Practice: Poor (0–8), Average (9–11), Good (12–15)

Validity and Reliability

The tool was validated by experts in nursing and medicine. Necessary changes were made based on the feedback. Reliability was confirmed using standard procedures.

Data Collection Procedure

Formal permission was obtained from the hospital authorities. Informed consent was obtained from the participants before data collection. Confidentiality and anonymity were maintained throughout the study.

Plan for Data Analysis

Data were analyzed using descriptive and inferential statistical methods.

Frequency and percentage for demographic variables

Pearson's correlation coefficient for relationship analysis

Chi-square test for association

Ethical Considerations

Ethical clearance was obtained from the relevant authorities. Participants were informed of the purpose of the study, and their participation was voluntary.

Analysis

The remainder of this paper is organized as follows:

Section A: Participant demographic details

Section B: Knowledge level concerning foot care in diabetic individuals

Section C: Practice level related to foot care in diabetic individuals

Section D: Relationship between knowledge and practice

Section E: Association between knowledge and selected demographic variables

Section F: Association between practice and selected demographic variables

Section A: Demographic Details

This study included 40 patients with diabetes. The distribution of participants based on demographic variables is summarized below.

SL.NO	AGE	FREQUENCY	PERCENTAGE
1.	35-44	6	15%
2.	45- 60	12	30%
3.	>60	22	55%

The majority of participants (55%) were above 60 years of age, followed by 30% in the 45–60 age group and 15% between 35 and 44 years.

Regarding gender, 55% were males and 45% were females.

SL.NO	SEX	FREQUENCY	PERCENTAGE
1.	Male	22	55%
SL.NO	EDUCATIONAL STATUS	FREQUENCY	PERCENTAGE
1.	Professional degree	6	15%
2.	Graduate	4	10%
3.	Intermediate/diploma	8	20%
4.	High school	14	35%
5.	Middle school	6	15%
6.	Primary school	1	2%

In terms of educational status, most participants had completed high school (35%), followed by intermediate/diploma (20%) and professional degree holders (15%). A small

proportion had only received primary education.

SL.NO	OCCUPATIONAL STATUS	FREQUENCY	PERCENTAGE
1.	Professional	16	40%
2.	Semi professional	2	5%
3.	Clerical/shop/farm	5	12.5%
4.	Skilled worker	17	42.5%

Regarding occupation, 42.5% were skilled workers and 40% were professionals, while

the remaining participants were distributed among other occupational categories.

SL.NO	DURATION OF DIABETES MELLITUS	FREQUENCY	PERCENTAGE
1.	<5 years	21	52%
2.	5-10 years	7	18%
3.	>10 years	12	30%

SL.NO	SMOKING	FREQUENCY	PERCENTAGE
1.	Yes	5	12.5%
2.	No	35	87.5%

More than half of the participants (52%) had diabetes for less than 5 years, whereas 30% had diabetes for more than 10 years. The

majority (87.5%) were non-smokers, and 67% had a family history of diabetes.

SL.NO	TREATMENT	FREQUENCY	PERCENTAGE
1.	Diet control	2	5%
2.	Oral medication	16	40%
3.	Insulin	5	12.5%
4.	Alternative medications	17	42.5%
5.	Nil	0	0%

SI NO	DURATION OF TREATMENT	FREQUENCY	PERCENTAGE
1.	0-5 years	15	37%
2.	6-10 years	6	15%
3.	>10 years	19	48%

SI NO	PLACE OF LIVING	FREQUENCY	PERCENTAGE
1.	Rural	30	75%
2.	Urban	10	25%

Regarding treatment, 42.5% used alternative medications, 40% were on oral medications, and a smaller percentage were on insulin or

diet control. Most of the participants (75%) resided in rural areas.

Section B: Level Of Knowledge

KNOWLEDGE SCORE	FREQUENCY	PERCENTAGE OF TOTAL
Good	33	83%
Average	6	15%
Poor	1	2%

The findings revealed that the majority of participants (83%) had good knowledge of diabetic foot care. Approximately 15% demonstrated an average level of knowledge, while only 2% had poor knowledge.

This indicates that most patients were aware of essential foot care practices, although a small proportion lacked adequate understanding.

Section C: Level Of Practice

PRACTICE SCORE	FREQUENCY	PERCENTAGE OF TOTAL
Good	1	3%
Average	28	70%
poor	11	27%

In contrast to knowledge levels, the foot care practice was relatively low. Only 3% of the participants demonstrated good practice, while 70% had an average level, and 27% had poor practice.

These findings suggest a noticeable gap between the knowledge and actual implementation of foot care measures.

Section D: Correlation Between Knowledge And Practice

SI NO	VARIABLES	MEAN	SD	MEDIAN	df	r-VALUE	p-VALUE
1.	Knowledge	1.80	0.464	2	38	0.052	0.748
2.	Practice	2.25	0.494	2			

The correlation analysis showed a Pearson’s correlation coefficient (r) of 0.052, indicating a very weak positive relationship between knowledge and practice of the respondents. The p-value was 0.748, which was greater than the level of significance (0.05).

This result confirms that there is no statistically significant correlation between knowledge and practice of diabetic foot care among the participants.

Section E: Association Between Knowledge And Demographic Variables

SL No	Demographic Variables		Knowledge score			Chi-Square	df	p-value	Level of Significance
			Poor	Average	Good				
1	Age	35-44	0	1	5	2.85	4	0.583	Not Significant
		45-60	1	1	10				
		>60	0	4	18				
2	Sex	Male	1	1	16	3.33	2	0.189	Not Significant
		Female	0	5	17				
3	Education	Professional Degree	1	1	4	15.2	12	0.231	Not Significant
		Graduate	0	1	3				
		Diploma	0	2	6				
		High School	0	0	14				
		Middle School	0	1	5				
		Primary School	0	1	0				
		Illiterate	0	0	1				

4	Occupation	Professional	1	4	11	6.98	6	0.323	Not Significant
		Semi Professional	0	1	1				
		Clerical/shop/farm	0	0	5				
		Skilled Worker	0	1	16				
5	Duration of Diabetes	>10 Years	0	2	19	4.09	4	0.394	Not Significant
		5-10 Years	0	1	6				
		<5 Years	1	3	8				
6	Smoking	No	1	4	30	2.87	2	0.238	Not Significant
		Yes	0	2	3				
7	History of D.M	Yes	1	3	23	1.39	2	0.499	Not Significant
		No	0	3	10				
8	Kind of Treatment	Diet Control	0	0	2	2.41	6	0.879	Not Significant
		Oral Medication	1	3	12				
		Insulin	0	1	4				
		Alternative Medications	0	2	15				
9	Years of Treatment	0-5Years	1	3	11	2.45	4	0.654	Not Significant
		6-10Years	0	1	5				
		>10Years	0	2	17				
10	Place Living	Urban	1	1	8	3.23	2	0.199	Not Significant
		Rural	0	5	25				

The association between the knowledge scores and selected demographic variables was analyzed using the chi-square test.

The findings indicated no statistically significant association between knowledge levels and variables such as age, sex, education, occupation, duration of diabetes,

smoking status, family history, treatment type, duration of treatment, and place of residence ($p > 0.05$).

Section F: Association Between Practice And Demographic Variables

SL No	Demographic Variable		PRACTICE SCORE			Chi-Square	df	p-value	Level of Significance
			Good	Average	Poor				
1	Age	35-44	0	5	1	4.05	4	0.399	Not Significant
		45-60	1	9	2				
		>60	0	14	8				
2	Sex	Male	1	12	5	1.28	2	0.529	Not Significant
		Female	0	16	6				
3	Education	High school	0	8	6	11.8	12	0.465	Not Significant
		Professional degree	0	6	0				
		Diploma	1	6	1				
		Middle school	0	4	2				
		Graduate	0	3	1				
		Primary school	0	1	0				
4	Occupation	Professional	0	9	7	5.00	6	0.543	Not Significant
		Skilled worker	1	13	3				
		Clerical/shop/farm	0	4	1				
		Semi professional	0	2	0				
5	Duration of Diabetes	>10 Years	0	13	8	8.34	4	0.080	Not Significant
		5-10 Years	1	4	2				
		<5 Years	0	11	1				
6	Smoking	No	0	25	10	7.20	2	0.027	Significant
		Yes	1	3	1				
7	History of D.M	Yes	1	16	10	4.60	2	0.100	Not Significant
		No	0	12	1				
8	Kind of Treatment	Alternative Medications	1	12	4	2.19	6	0.901	Not Significant
		Oral Medication	0	11	5				
		Insulin	0	4	1				
		Diet Control	0	1	1				
9	Years of Treatment	>10Y	0	12	7	7.18	4	0.127	Not Significant
		0-5Y	0	12	3				
		6-10Y	1	4	1				
10	Place of Living	Urban	0	7	3	0.364	2	0.834	Not Significant
		Rural	1	21	8				

We also looked at the link between practice scores and demographic variables.

The results indicated that factors such as age, sex, education, occupation, duration of diabetes, and place of residence did not exhibit a significant correlation with their practice levels.

The statistically significant association between smoking status and practice ($p = 0.027$) indicates that smoking behavior influences foot care practices.

Discussion

The current study evaluated the knowledge and practices of diabetic foot care among patients and investigated the correlation between these variables.

The results showed that most of the people who took part had a good understanding of how to take care of their feet.

The level of practice, on the other hand, was not good enough; most people only showed average or poor practices.

This shows a clear difference between what people know and how they use it in real life. Similar results have been documented in prior studies, indicating that sufficient knowledge did not inherently lead to appropriate practice. Numerous studies have underscored that mere awareness is inadequate to effectuate behavioral change.

The absence of a substantial correlation between knowledge and demographic variables indicates that knowledge levels were fairly consistent across various population groups.

In the same way, most demographic factors did not affect practice levels, with the exception of smoking status.

The correlation analysis further substantiated that knowledge and practice are not significantly correlated.

This suggests that additional factors, including motivation, habits, and behavioral patterns, may significantly influence practice.

In general, the study's results show that we need interventions that do more than just teach people new things. They also need to help people improve their practical skills and change their behavior.

Nursing Implications

Nursing Education

Structured teaching programs should stress the importance of diabetic foot care in nursing school.

To help people learn new skills, practical training

and demonstrations of foot care techniques should be included.

Nursing Practice

Nurses are very important for teaching patients how to take care of their feet properly.

Regular sessions to teach patients and follow-ups are important to make sure they follow the recommended practices.

Nursing Management

Nurse administrators should organize in-service education programs and awareness campaigns to promote diabetic foot care. Proper resource allocation and interdisciplinary collaboration are thus necessary. Further Research Further focus on preventive strategies, early detection, wound care management, and patient education. Evidence-based practices should be implemented to improve the patient outcomes.

Limitations

Small sample size ($n = 40$)

Limited to selected settings

Cross-sectional design

Possible sampling errors

Variations in literacy and understanding

Time and resource constraints

Recommendations

Conduct studies with larger sample sizes

Perform comparative and interventional studies

Implement structured educational programs

Promote community awareness programs

Encourage routine foot assessment

Summary

The study evaluated knowledge and practices related to diabetic foot care and analyzed their correlation with demographic variables. The results showed that most of the people who took part had a lot of knowledge, but they didn't practice what they knew well. There was no significant correlation between knowledge and demographic variables; only smoking exhibited a significant correlation with practice.

Conclusion

The current study determined that although patients with diabetes have sufficient knowledge about foot care, this knowledge does not substantially impact their practices. No statistically significant correlation was

found between knowledge and practice, indicating a disparity between awareness and execution.

The findings underscore the necessity of targeted interventions that enhance behavioral dimensions and practical skills rather than solely focusing on knowledge acquisition. To improve foot care practices and avoid problems, it is important to strengthen patient education through hands-on demonstrations and ongoing reinforcement.

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