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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING SELF ADMINISTRATION OF INSULIN AMONG DIABETIC PATIENTS AT SELECTED HOSPITALS, TUMKUR

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ABSTRACT:

Introduction: Diabetes mellitus is a chronic metabolic disorder that requires lifelong management, including regular insulin therapy for many patients. Proper self-administration of insulin is essential to maintain optimal blood glucose levels and prevent complications. However, many diabetic patients lack adequate knowledge and skills regarding correct insulin administration techniques. A structured teaching programme can enhance patients' understanding and promote safe self-care practices. Therefore, this study aims to evaluate the effectiveness of a structured teaching programme on knowledge regarding self-administration of insulin among diabetic patients at selected hospitals in Tumkur. Objective: The main objective of the study was to evaluate the effectiveness of structured teaching programme regarding self-administration of Insulin among Diabetic patients. Methodology: A quantitative research approach was used. The design adopted for the study was pre-experimental with one group pre & post-test design. Purposive sampling technique was used to select 60 Diabetic patients. Result: The mean value of post-test level of Knowledge after planned teaching program was 20.67 and it was higher than the pretest mean value 8.01. The calculated t-test value was 32.72 showed that there was a significant difference in the effectiveness of structured teaching program at $p < 0.05$ level. Conclusion: The study findings revealed that the structured teaching program was effective in increasing the level of knowledge regarding self-administration of insulin among diabetic patients.

***Keywords**: Structured teaching programme, self-administration of Insulin, Diabetes mellitus.*

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INTRODUCTION:

Diabetes mellitus is a long-term metabolic disorder characterized by elevated blood glucose levels due to defects in insulin secretion or action. Effective management often requires regular insulin therapy, especially in patients with uncontrolled blood sugar levels. Proper knowledge about insulin administration is essential to achieve optimal glycaemic control and prevent complications.

Self-administration of insulin demands adequate understanding of dosage, injection sites, storage, and aseptic techniques. Inadequate knowledge may lead to improper practices, resulting in hypoglycaemia, hyperglycaemia, and other serious complications. Education plays a vital role in empowering patients to manage their condition safely and independently.

A structured teaching programme provides systematic and organized information to enhance patients' knowledge and skills. By improving understanding and correcting misconceptions, such programmes can promote better self-care practices. Hence, this study aims to assess the effectiveness of a structured teaching programme on knowledge regarding self- administration of insulin among diabetic patients at selected hospitals in Tumkur.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of structured teaching programme on knowledge regarding self-administration of Insulin among Diabetic patients at selected hospitals, Tumkur.

OBJECTIVES

1. To assess the pre and post-test level of knowledge regarding self-administration of Insulin among Diabetic patients.
2. To evaluate the effectiveness of structured teaching programme regarding self- administration of Insulin among Diabetic patients.
3. To associate the pretest level of knowledge regarding self-administration of Insulin among Diabetic patients with their selected demographic variables.

MATERIALS AND METHODS

STUDY DESIGN

Research design adopted for this study was pre-experimental with one group pre and post-test design.

SAMPLE

Diabetic patients who fulfilled the inclusion criteria.

SAMPLE SIZE

Total sample size was 60 Diabetic patients at selected hospitals, Tumkur.

SAMPLING TECHNIQUE

Purposive sampling technique was adopted for this study. Among the total population the investigator selected sixty (60) samples who met inclusion criteria.

STUDY SETTING

The study was conducted in selected hospitals in Tumkur.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

i. Diabetic patients receiving insulin therapy.
ii. Patients aged 30 years and above.
iii. Patients who are willing to participate and give informed consent.
iv. Patients attending selected hospitals in Tumkur.
v. Patients who can read or understand Kannada or English.
vi. Patients who are physically and mentally stable to participate in the teaching programme and data collection.

Exclusion Criteria

i. Patients who are not on insulin therapy.
ii. Patients who are critically ill or hospitalized in emergency care.
iii. Patients with known cognitive impairment or psychiatric illness.
iv. Patients who have already attended a similar structured teaching programme within the past 6 months.
v. Patients unwilling to participate in the study.

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DEVELOPMENTAND DESCRIPTION OF THE TOOL The tool consisted of two sections:

Section A: Demographic data of the samples consisting of items such as Age in years, Gender, Educational Qualification, Religion, Occupation, Marital Status, Duration of Diabetes, Duration of Insulin Use, Frequency of Insulin Administration per day & Source of Information.

Section B: Structured knowledge questionnaire was used to collect data regarding self- administration of insulin.

FINDINGS

S.NO	GROUP	LEVEL OF KNOWLEDGE			T- VALUE
		MEAN	Standard Deviation	Degree of freedom	
1.	PRETEST	8.01	3.79	59	32.72
2.	POST TEST	20.67	3.95		S

The mean value of post-test level of Knowledge after structured teaching program was 20.67 and it was higher than the pretest mean value 8.01. The calculated t-test value was 32.72 showed that there was a significant difference in the effectiveness of structured teaching program at $p < 0.05$ level. The difference between the pre and post-test response showed that structured teaching program was effective in the improvement of knowledge regarding self-administration of Insulin. Hence the research hypothesis states that, "There is a significant difference between the pre and post-test level of knowledge regarding self-administration of Insulin among Diabetic patients."

Association of pre-test level of knowledge with their selected demographic variables of Diabetic patients

S. No	DEMOGRAPHIC VARIABLES	PRE TEST LEVEL OF KNOWLEDGE										χ^2 VALUE
		VERY POOR		POOR		AVERAGE		GOOD		VERY GOOD		
		F	%	F	%	F	%	F	%	F	%	
	Age in years											7.78
	a) 30 – 40 years	1	1.67	1	1.67	0	0	0	0	0	0	DF = 12
1.	b) 41 – 50 years	4	6.67	5	8.33	1	1.67	0	0	0	0	P 0.55 NS
	c) 51 – 60 years	3	5.00	15	25.00	4	6.67	0	0	0	0	
	d) Above 60 years	7	11.67	11	18.33	6	10.00	2	3.33	0	0	
	Gender											2.16
2.	a) Male	9	15.00	24	40.00	7	11.67	2	3.33	0	0	DF = 4
	b) Female	6	10.00	8	13.33	4	6.67	0	0	0	0	P 0.70 NS
	Educational qualification											
	a) No formal education	1	1.67	0	0	1	1.67	0	0	0	0	7.31
3.	b) Primary education	2	3.33	2	3.33	1	1.67	0	0	0	0	DF = 16
	c) Secondary education	2	3.33	8	13.33	4	6.67	1	1.67	0	0	P 0.96 NS
	d) Higher secondary	6	10.00	16	26.67	4	6.67	1	1.67	0	0	
	e) Graduate and above	4	6.67	6	10.00	1	1.67	0	0	0	0	
	Religion											9.88
	a) Hindu	6	10.00	22	36.67	9	15.00	1	1.67	0	0	DF = 12
4.	b) Christian	4	6.67	8	13.33	1	1.67	1	1.67	0	0	P 0.62 NS
	c) Muslim	5	8.33	2	3.33	1	1.67	0	0	0	0	
	d) Others	0	0	0	0	0	0	0	0	0	0	
	Occupation											
	a) Unemployed	1	1.67	2	3.33	1	1.67	0	0	0	0	11.93
5.	b) Daily wage worker	2	3.33	4	6.67	1	1.67	0	0	0	0	DF = 16
	c) Private employee	7	11.67	5	8.33	7	11.67	2	3.33	0	0	P 0.74 NS
	d) Government	2	3.33	9	15.00	1	1.67	0	0	0	0	
	employee	3	5.00	12	20.00	1	1.67	0	0	0	0	
	e) Retired											

6.	**Marital status**											2.55
	a) Single	0	0	1	1.67	0	0	0	0	0	0	DF = 12
	b) Married	11	18.33	22	36.67	8	13.33	2	3.33	0	0	P 0.99 NS
	c) Widowed	4	6.67	8	13.33	3	5.00	0	0	0	0	
	d) Divorced	0	0	1	1.67	0	0	0	0	0	0	
7.	**Duration of diabetes**											0.68
	a) Less than 1 year	0	0	0	0	0	0	0	0	0	0	DF = 12
	b) 1 – 5 years	2	3.33	5	8.33	2	3.33	0	0	0	0	P 0.99 NS
	c) 6 – 10 years	6	10.00	13	21.67	5	8.33	1	1.67	0	0	
	d) More than 10 years	7	11.67	14	23.33	4	6.67	1	1.67	0	0	
8.	**Duration of insulin use**											3.55
	a) Less than 6 months	2	3.33	7	11.67	2	3.33	0	0	0	0	DF = 12
	b) 6 months – 1 year	3	5.00	9	15.00	4	6.67	0	0	0	0	P 0.99 NS
	c) 1 – 3 years	4	6.67	7	11.67	2	3.33	1	1.67	0	0	
	d) More than 3 years	6	10.00	9	15.00	3	5.00	1	1.67	0	0	
9.	**Frequency of Insulin Administration per Day**											0.68 DF = 12
	a) Once	4	6.67	14	23.33	3	5.00	1	1.67	0	0	P 0.99 NS
	b) Twice	8	13.33	15	25.00	7	11.67	1	1.67	0	0	
	c) Thrice or more	3	5.00	3	5.00	1	1.67	0	0	0	0	
10.	**Source of Information**											
	a) Health professionals	5	8.33	11	18.33	5	8.33	1	1.67	0	0	3.7
	b) Family / Friends	2	3.33	6	10.00	1	1.67	0	0	0	0	DF = 16
	c) Internet	6	10.00	8	13.33	4	6.67	1	1.67	0	0	P 0.99 NS
	d) Television/ Radio	2	3.33	7	11.67	1	1.67	0	0	0	0	
	e) None	0	0	0	0	0	0	0	0	0	0	

CONCLUSION

Based on the findings, the investigator concluded that the structured teaching programme was effective in improving the level of knowledge regarding self-administration of insulin among diabetic patients. A significant difference observed between the pre-test and post-test scores indicates that the programme enhanced patients' understanding of correct insulin dosage, injection techniques, storage, and site rotation. Thus, the structured teaching programme proved to be a useful educational intervention in promoting knowledge and safe self-care practices related to insulin administration among diabetic patients at selected hospitals in Tumkur.

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