'Evaluate the effectiveness of information education and communication package on knowledge regarding self-care among diabetes mellitus patients on insulin therapy' in selected area of Sunder-Nagar, District-Mandi (H.P.).

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INTRODUCTION

"Health is a state of complete physical, mental and social well – being and merely an absence of disease or infirmity" **(WHO)**Publicizing healthful ways of living is essential for maintaining health. There is a substantial amount of data suggesting a link between people's health and their way of life. Changes in lifestyle are linked to many of the modern health issues, especially in industrialised countries (such as diabetes mellitus, coronary heart disease, obesity, lung cancer, and drug addiction). Hyperglycemia (high blood sugar) is a hallmark symptom of diabetes mellitus, a group of metabolic diseases caused by a deficiency in insulin secretion, insulin action, or both.

According to **International Diabetes Federation and WHO (2019),** In 2010, there were about 463 million individuals living with diabetes; by 2040, that number is expected to reach 700 million. With 77 million people suffering from diabetes, India is now considered the "second global capital of diabetes" and has the second highest prevalence of the disease. At least one in ten fatalities in persons aged 35 to 64 can be directly linked to diabetes. Almost 77 million people in India currently have diabetes, and experts predict that number will rise to 90 million by 2030. As time goes on, uncontrolled diabetes can lead to complications in the kidneys, heart, and nervous system. India is home to 16 percent of the world's diabetic population.

PROBLEM STATEMENT: A study to 'Evaluate the effectiveness of information education and communication package on knowledge regarding self-care among diabetes mellitus patients on insulin therapy' in selected area of Sunder-Nagar, District- Mandi (H.P.).

OBJECTIVES OF THE STUDY :

1.To assess the pre-test knowledge regarding self-care among diabetes mellitus patients on insulin therapy.

2.To assess the post test level of knowledge regarding self-care among diabetes mellitus patients on insulin therapy.

3.To assess the effectiveness of information education and communication package on knowledge regarding self-care among diabetes mellitus patients on insulin therapy.

4 To determine the association between pre-test and post test level of knowledge regarding self-care among diabetes mellitus patients on Insulin therapy with their selected demographic variables.

RESEARCH HYPOTHESES

H1 - There would be a significant difference in the level of knowledge regarding self-care before and after IEC package.

H2 - There would be a significant relationship between the post test level of knowledge among diabetes mellitus person on Insulin therapy.

H3 - There would be a significant association between the pretest level of knowledge selected demographic variables among diabetes mellitus person on Insulin therapy.

H4 -There would be a significant association between the post test level of knowledge selected demographic variables among diabetes mellitus person on Insulin therapy.

Conceptual Framework

The present study aimed to assess the effectiveness of information,education and communication package on knowledge and practice regarding self-care among diabetes mellitus. Conceptual framework of the present study was developed based on the general system theory pioneered byLudwig Von Bertalanffy (1968).

Research Methodology

In this study Quasi Experimental research design was considered to the most appropriate for the study. A quasi experimental research group design is used to evaluate the effectiveness of information education and

communication package on knowledge regarding self-care among diabetes mellitus patients on insulin therapy' in selected area of Sunder-Nagar, District- Mandi (HP.).

RESEARCH SETTING: The setting is the physical location and condition in which data collection take place. The setting of present study was selected area of Sundernagar, Distt- Mandi (H.P.)

The criteria for selecting this setting was:

- Familiarity with the setting
- Availability of the subjects
- Feasibility of conducting the study.

POPULATION: The population for the present comprised of persons who are having diabetes mellitus on insulin therapy in selected area of Sunder-Nagar, District- Mandi (HP.).

TARGET POPULATION : The target population for the present comprised of persons who are having diabetes mellitus on insulin therapy in selected area of Sunder-Nagar, District- Mandi (HP.).

SAMPLE AND SAMPLING TECHNIQUE

The sample of the study comprised of the person of age group 30 years and above.The villages were selected on the convenience basis.The sampling technique of the present study was non probability convenient sampling technique.The sample for the study will be 400 patients with diabetes mellitus on insulin therapy. In that 200 patients will be in control group and 200 patients will be in experimental group.

DATA COLLECTION TOOLS AND TECHNIQUES

Selection and development of tool: Formulated by the following steps

- Planning of tool
- Reviewing research and non research literature by using books, journals and internet.
- Opinion from experts
- Material was finalized by guide.
- Investigator experience
- By observation

Data Collection Instruments:

Following data tools will be used in order to obtain the data:

- Demographic data profile sheet.
- Self Structured Knowledge questionnaire regarding self-care.

Section A : Demographic data profile sheet

It is used for assessment of demographic variables such as age, gender, educational status, type of family, diet, family income, religion, marital status, occupation, area of living, exercise Duration of Diabetes mellitus, Duration of taking Insulin.

Section B: Self Structured Knowledge questionnaire regarding self-care

It is used for assessment of knowledge questionnaire of diabetes mellitus patient on insulin therapy regarding self-care. This section consists of 25 knowledge questionnaire regarding self-care.

The tool was ascertained in consultation with guide and experts from various nursing and medical field. The reliability of screening test for tools were obtained by Split Half Method

Data Collection procedure:

Written permission was taken from the head (sarpanch) of the village to conduct study. The investigator maintained the rapport with the subjects and explained about the study and its purpose. The coding was done to identify the subjects. Finding of the study revealed that full cooperation was given by the Sarpanch and family members.Study subjects were available, it tooks approximately 10-15 minutes to collect information from one subject. Language of tool was clear and easily understood by the study subject.

Data analysis

Data analysis is a systematic of research data and testing of research data and testing of research hypothesis using those data and the collected data was analyzed.

With expert guidance the following plan was made:

- Organized the data in master data sheet.
- Analysis of the data was done in accordance with the objectives of the study.
- Demographic data in the form of frequencies and percentage.
- Data was analyzed by using Statistical Package for Social Sciences (SPSS) programme (Version 19) and M.S Excel.
- Statistical consultant services was also concerned for analysis. The data obtained had been analyzed in terms of descriptive and inferential statistics.
- Mean, Standard deviation and T test and Chi square was used to test the hypothesis.
- Chi square was used to find out the association with dependent and independent variables.

- The data was represented in the form of tables and graphs where ever it is applicable

RESULTS

- **Frequency Distribution of Demographic variables:**

The majority of them 84 (42%) in control group and 83 (41.5%) in experimental group belongs to age group of 41-50 yrs. Most of them 104 (52%) in control group and 103 (51.5%) in experimental group were male. In relation to marital status majority of them 136 (68%) in control group and 135 (67.5%) in experimental group were unmarried Most of 158 (79%) in control group and 155 (77.5%) in experimental group were Hindu. The majority of them 77 (38.5%) in experimental group and 76 (38%) in control group had their education up to higher secondary .From whole population majority of person 72 (35%) in control group and 70 (34%) were on Govt job As per monthly income highly earned income was 20,001-30,000 in experimental group by 68 (34%) and 66 (33%) in control group In relation to area of living 115 (57.5%) in control group and 112 (56%) population lives in urban area In relation to dietary pattern 102(51%) in control group and 101(50.5%) in experimental group were non- vegetarian About 102 (51%) in both group were doing.Shifting towards duration of diabetes majority of subjects has diabetes 101(50.5%) in experimental group and 100 (50%) in control group from 5-10 yrs About 101(50.5%) in experimental group and 100 (50%) in control group from 5-10 yrs were on insulin

Table 2: Pretest and posttest knowledge among diabetes mellitus patients on insulin therapy in experimental group and control group.

CRITERIA MEASURE OF KNOWLEDGE SCORE				
Scores	**Pre Experimental**	**Pre Control**	**Post Experimental**	**Post Control**
ADEQUATE(21-30)	0(0%)	0(0%)	28(93.3%)	0(0%)
MODERATE(11-20)	8(26.7%)	10(33.3%)	2(6.7%)	13(43.3%)
INADEQUATE(0-10)	22(73.3%)	20(66.7%)	0(0%)	17(56.7%)

Maximum=30 Min =0

Table-4 shows the distribution of Pre test and post test knowledge among diabetes mellitus patients on insulin therapy in experimental group and control group. Majority of persons in post test were 128 (93.3%) adequate knowledge after intervention (IEC package).
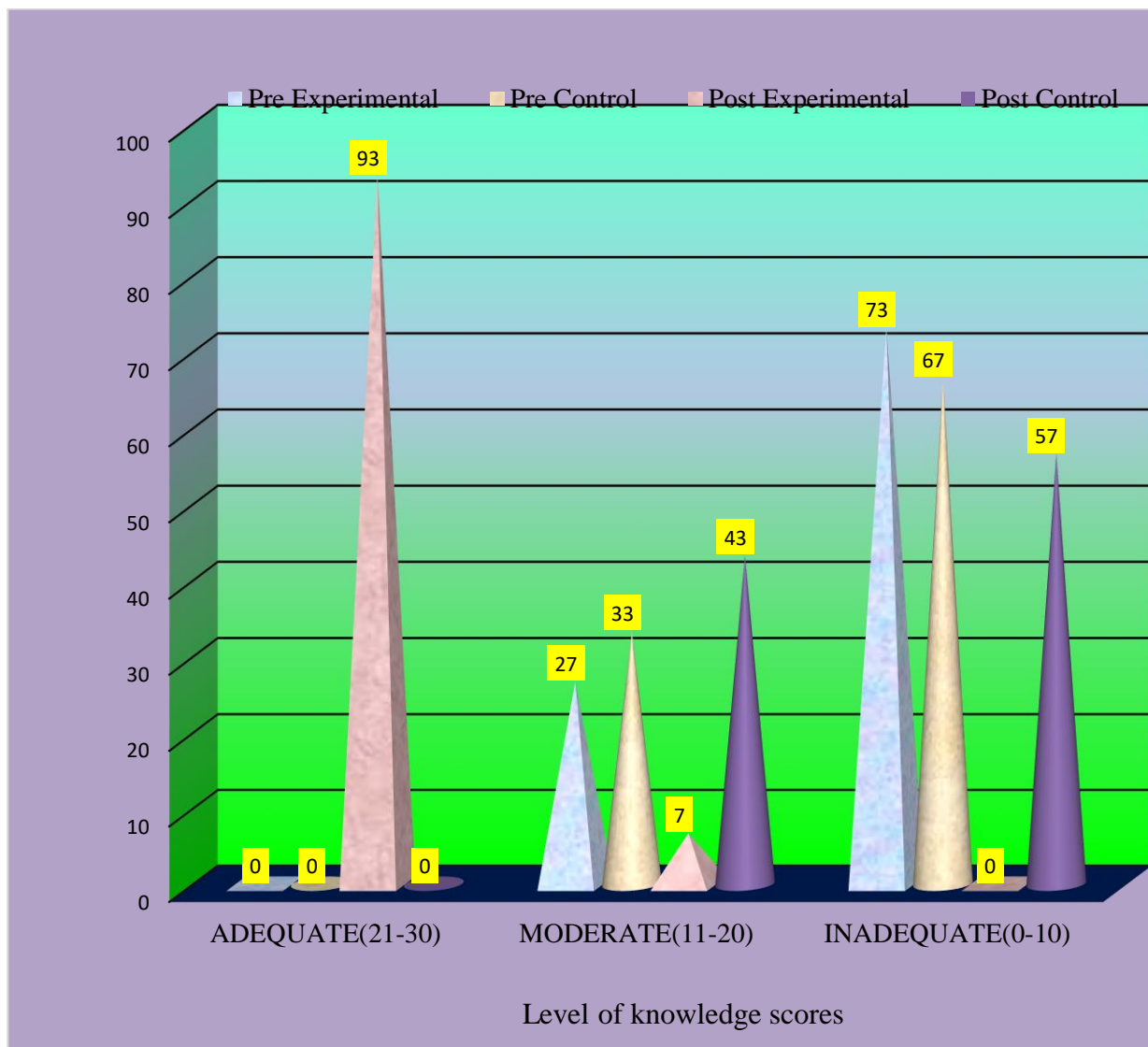
Figure 1: Bar graph showing Pretest and posttest knowledge among diabetes mellitus patients on insulin therapy in experimental group and control group.

Table No.3 : Association of pretest level of knowledge with selected demographic variables in experimental group and control group

Variables	Options	Experimental Group				Control Group				Result
		Adequate	Moderate	Inadequate	Chi Test	Adequate	Moderate	Inadequate	Chi Test	
Age	30-40 years	0	10	60	0.164	0 / 0	13	56	3.209	Not Significant
	41-50 years	0	13	70		0	11	73		

Category	Subcategory									
	Above 51 years	0	8	39			12	35		
Gender	Male	0	21	82		0	19	85	0.011	Not Significant
	Female	0	10	87	3.875	0	17	79		
	Transgender	0	0	0		0	0	0		
Marital Status	Married	0	8	31		0	9	30	0.956	Not Significant
	Unmarried	0	17	112		0	23	108		
	Widow	0	5	13	3.746	0	3	14		
	Divorced	0	1	7		0	1	7		
Religion	Hindu	0	27	128		0	28	124	0.047	Not Significant
	Muslim	0	2	30		0	6	25		
	Christian	0	1	0	8.449	0	0	0		
	Sikh	0	1	11		0	2	9		
Education	Illiterate	0	5	17		0	6	16	2.697	Not Significant
	Primary education	0	5	22		0	5	22		
	Higher secondary	0	8	69	2.842	0	10	66		
	Graduate or above	0	13	61		0	15	60		
Occupation	Housewife	0	2	28		0	10	46		Not Significant
	laborer	0	9	45	2.350	0	16	56		
	Govt. Job	0	13	57		0	4	39	4.905	
	Private Job	0	7	39		0	7	28		
Income	Below Rs 10,000 /-	0	2	34		0	9	53		Not Significant
	Rs 10001-20,000 /-	0	9	51	5.234	0	9	57		
						0	11	26	0.401	
						0	19	96		

Variable	Category								
	Rs 20,001-30,000/-	0	11	57					
	Above Rs 30,000 /-	0	9	27					
Area of Living	Urban	0	18	94	0.063	0	17	68	Not Significant
	Rural	0	13	75		0	12	76	2.042	Not Significant
Diet	Vegetarian	0	16	73		0	22	80	Not Significant
	Non vegetarian	0	12	89	3.032	0	2	8	0.056
	Eggetarian	0	3	7		0	19	83	
Exercise	Yes	0	15	87	0.100	0	19	83	0.056	Not Significant
	No	0	16	82		0	17	81	
Duration of Diabetes	Less than 5 years	0	12	67		0	17	64	Not Significant
	5-10 years	0	14	87	1.591	0	15	85	1.220
	Above 10 years	0	5	15		0	4	15	
Duration of Taking Insulin	Less than 5 years	0	12	67		0	17	64	Not Significant
	5-10 years	0	14	87	1.591	0	15	85	1.220
	Above 10 years	0	5	15		0	4	15	

Table no 2: above table shows that there was no significant association between of pretest level of knowledge. Therefore the hypothesis 4 was rejected that There would be a significant association between the pretest level of knowledge and selected demographic variables among diabetes mellitus person on Insulin therapy.

Table No. 3: Association of posttest level of knowledge with selected demographic variable in experimental and control group.

DEMOGRAPHIC VARIABLES	Experimental group			Control group		

Variables	Options	Adequate	Moderate	Inadequate	Chi Test	Adequate	Moderate	Inadequate	Chi Test	Results
Age	30-40 years	48	22	0						
	41-50 years	59	24	0	2.269	0	15	54	2.028	Not Significant
						0	16	68		
						0	14	33		
	Above 51 years	38	9	0						
Gender	Male	73	30	0						
	Female	72	25	0	0.282	0	25	79	0.294	Not Significant
						0	20	76		
	Transgender	0	0	0		0	0	0		
Marital Status	Married	26	13	0						
	Unmarried	98	37	0	3.492	0	13	26	3.640	Not Significant
						0	27	##		
	Widow	16	2	0		0	4	13		
	Divorced	5	3	0		0	1	7		
Religion	Hindu	##	47	0					0.370	Not Significant
	Muslim	24	8	0	5.651	0	37	##		
	Christian	1	0	0		0	6	25		
						0	0	0		
	Sikh	12	0	0		0	2	9		
Education	Illiterate	16	6	0					5.206	Not Significant
	Primary education	20	7	0	0.087	0	7	15		
						0	6	21		
	Higher secondary	55	22	0		0	11	65		
						0	21	54		
	Graduate or above	54	20	0						
Occupation	Housewife	21	9	0						Not Significant
	laborer	38	16	0	0.518	0	6	23		
						0	13	43		
	Govt. Job	51	19	0		0	19	53	1.650	
	Private Job	35	11	0		0	7	36		
Income	Below Rs 10,000 /-	27	9	0						Not Significant
						0	7	28		
	Rs 10001-20,000 /-	41	19	0	0.784	0	14	48		
						0	12	54	2.925	
	Rs 20,001-	50	18	0		0	12	25		

	30,000/- Above Rs 30,000 /-	27	9	0						
Area of Living	Urban	81	31	0	0.004	0	26	89	0.002	Not Significant
	Rural	64	24	0		0	19	66		
Diet	Vegetarian	69	20	0		0	16	72		Significant
	Non vegetarian	72	29	0	16.501*	0	26	76	1.787	
	Eggetarian	4	6	0		0	3	7		
Exercise	Yes	84	18	0	14.136*	0	23	79	0.000	Significant
	No	61	37	0		0	22	76		
Duration of Diabetes	Less than 5 years	57	22	0		0	18	63	0.041	Significant
	5-10 years	73	28	0	15.16*	0	23	77		
	Above 10 years	15	5	0		0	4	15		
Duration of Taking Insulin	Less than 5 years	57	22	0			18	63	16.332*	Significant
	5-10 years	73	28	0	0.070		23	77		
	Above 10 years	15	5	0			4	15		

Table3: Describes the association of selected demographic variables with post test knowledge scores. There was a significant association of selected demographic variables such as Diet($\chi2=16.501$), Exercise ($\chi2=14.136$), duration of diabetes mellitus ($\chi2=15.160$), duration of taking insulin ($\chi2 =16.332$) and posttest knowledges cores. So, the hypothesis 5 (H5) were accepted that There is a significant association between the post test level of knowledge and selected demographic variables among diabetes mellitus person on Insulin therapy.

CONCLUSION

The study showed that the information education and communication package effects knowledge and practice regarding self-care among diabetes mellitus patients on insulin therapy' The findings of study also showed that by Diet, Exercise, duration of diabetes mellitus duration of taking insulin and Occupation was mostly affected by IEC activity as Knowledge regarding self care was improved. Thus it can be concluded that information education and communication package effects knowledge regarding self-care among diabetes mellitus patients on insulin therapy'

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