Impact of Educational Intervention on Health Behavior towards Diabetes Mellitus –A Community based Interventional Study

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ABSTRACT

Diabetes incidence has been significantly increasing, particularly in urbanised nations. By 2035, it is predicted that there will be about 600 million people living with diabetes worldwide. Proper education is one of the most effective methods to prevent the onset of complications connected to diabetes, according to a large body of evidence. A probability proportion to size sampling strategy was used in the community-based intervention study, which adopted a true experimental design.In the initial phase, 240 samples were chosen.240 people were sampled, and those with diabetes were selected for intervention.Pre-testing was carried out utilising a structured interview schedule, with 60 persons being taken for the intervention under cluster randomization.With the aid of flash cards, health education was provided on the definition, aetiology, clinical symptoms, control, and prevention of diabetes.. The post test was completed at intervals of 3 months and 6 months.In the pretest showed that 53.3% of the population had insufficient awareness, while in the posttests I and II, only 40.0% did. After 3 months, nobody has the adequate awareness, but after 6 months, 10% of people have the adequate awareness.Regarding practice, 66.7% had subpar practice. Within 3 months of the intervention, it will drop to 40.0%. Six months following the operation, it drops to 36.7%. Reinforcement of the intervention will raise awareness, practice, and lessen consequences related to diabetes mellitus.

Key-Words: Awareness, Practice, Diabetes Mellitus

INTRODUCTION

Diabetes is a serious, aggressive metabolic disease that is on the rise everywhere in the world, in both industrialised and developing nations. One of the main causes of the disease is the substantial alteration in peoples' lifestyles, which may be related to fast-paced living and poor nutritional habits. According to several research carried out in various developing nations, patient education, combined with followed procedures and mentality, can greatly aid in preventing the negative effects of diabetes mellitus.(5)

The prevention of diabetes, its complications, and related metabolic illnesses is significantly influenced by increased awareness among sizable population groups. In particular ethnic and cultural contexts, knowledge and attitude are the most important markers of awareness that need to be investigated in distinct demographic groups. The general level of awareness and practice of diabetes among both non-DM and T2DM people generally have positive attitudes. Coordinated educational initiatives with a prioritised focus on poorer, rural, and less educated people are urgently needed to avoid diabetes and its complications.   (9)

METHODS AND MATERIALS

A quantitative approach was employed.In two phases the data was collected between 25.02.2021 to 31.06.21 In first phase selected 6 villages through proportionate probability size sampling 240 households was selected. Each socio-demographic profile, diet pattern, co-morbid illness, height,weight, waist circumference, hip

circumference, waist hip ratio,BMI, Random blood sugar three blood pressure measurements were assessed from the 240 households. Diabetic participants were asked to return to our institute for further evaluation. Diabetic status was determined by collecting a blood sample for HbA1C and sending it to a biochemistry lab. Diabetes and hypertension prevalence were determined. The investigator created an interview schedule to help with the pre-test. The planned intervention was administered to the samples in the experimental group. After three and six months,post-testing was performed.Newly diagnosed diabetics and hypertensives given intervention at the end of the study.known.diabetics and hypertensives taken for PHASE II intervention.Pre test done for both intervention and control group. Blood sample was taken for HbA1C from both control and experimental group.Blood pressure was taken for both control and experimental group.IEC package was given to experimental group. After 3 months Blood sample was taken for HbA1C.from both control and experimental group. Blood pressure was taken for both control and experimental group.After 6 months post test was done in both the experimental and control group. At the end of the study intervention given to the control group.

RESULTS

Table 1: Sociodemographic profile of the study participants

S. No.	Variable	Categories	Control (n=30)		Experimental (n=30)	
			Frequency	%	Frequency	%
1	Age	Up to 47 years	6	20.0	9	30.0
		48-55 Years	10	33.3	8	26.7
		56 years and above	14	46.7	13	43.3
		Total	30	100.0	30	100.0
2	Sex	Male	9	30.0	3	10.0
		Female	21	70.0	27	90.0
		Total	30	100.0	30	100.0
3	Education Status	No formal Schooling	13	43.3	20	66.7
		Primary School	5	16.7	5	16.7
		Middle School	3	10.0	3	10.0
		High School	7	23.3	1	3.3
		Higher Secondary	1	3.3	1	3.3
		Under graduate Degree	1	3.3	0	0
		Total	30	100.0	30	100.0
4	Religion	Hindu	27	90.0	28	93.3
		Christian	3	10.0	2	6.7
		Total	30	100.0	30	100.0
5	Types Of Family	Nuclear	26	86.7	26	86.7
		Joint	4	13.3	4	13.3

		Total	30	100.0	30.0	100.0

Above table represents most of the participants belong to 50 years and above in both control and experimental group.Nearly 70 to 90% were females. Most of them didn't have formal schooling. Most of them Hindus and belong to nuclear family.

Table 2: Awareness level at pretest level of diabetes patients

S. No.	Awareness Level	No. of cases in			
		Control group	%	Experimental group	%
1	Inadequate	16	53.3%	12	40.0%
2	Moderately Adequate	14	46.7%	18	60.0%
3	Adequate	0	0.0%	0	0.0%

Table 3: Awareness level at posttest 1 level of diabetes patients

S. No.	Awareness Level	No. of cases in			
		Control group	%	Experimental group	%
1	Inadequate	12	40.0%	7	23.3%
2	Moderately Adequate	18	60.0%	20	66.7%
3	Adequate	0	0.0%	3	10.0%

Table 4: Awareness level at posttest 2 level of diabetes patients

S. No.	Awareness Level	No. of cases in			
		Control group	%	Experimental group	%
1	Inadequate	12	40.0%	0	0.0%
2	Moderately Adequate	15	50.0%	20	66.7%
3	Adequate	3	10.0%	10	33.3%

Table 5: Practice level at pretest level of diabetes patients

S. No.	Practice Level	No. of cases in			
		Control group	%	Experimental group	%
1	Poor	20	66.7%	21	70.0%
2	Fair	10	33.3%	9	30.0%
3	Good	0	0.0%	0	0.0%

Table 6: Practice level at posttest 1 level of diabetes patients

S. No.	Practice Level	No. of cases in			
		Control group	%	Experimental group	%
1	Poor	12	40.0%	11	36.7%
2	Fair	18	60.0%	19	63.3%
3	Good	0	0.0%	0	0.0%

Table 6 : Practice level at posttest 2 level of diabetes patients

S. No.	Practice Level	No. of cases in			
		Control group	%	Experimental group	%
1	Poor	11	36.7%	0	0.0%
2	Fair	15	50.0%	21	70.0%
3	Good	4	13.3%	9	30.0%

In the pretest showed that 53.3% of the population had insufficient awareness, while in the posttests I and II, only 40.0% did. After 3 months, nobody has the adequate awareness, but after 6 months, 10% of people have the adequate awareness. Regarding practice, 66.7% had subpar practice. Within 3 months of the intervention, it will drop to 40.0%. Six months following the operation, it drops to 36.7%. Reinforcement of the intervention will raise awareness, practice, and lessen consequences related to diabetes mellitus.

DISCUSSION

There is a need to treat type 2 diabetics' nonadherence to medication.

Illiteracy, the use of additional forms of therapy, inadequate diabetes awareness, and polypharmacy are all put forth as contributing reasons.

Public awareness campaigns, blood sugar self-monitoring, and routine followup visits with a patient education focus may help with glycaemic management and issues connected to diabetes.(2)

The maintenance of fundus, glucose, and blood pressure screening programmes as well as practice-oriented teaching and advertising of facilities suited for the relevant demographics at each level of an eye health pyramid can aid in raising awareness of diabetes, hypertension, and diabetic retinopathy.(3)

According to Koley et al., a high frequency of undetected cases of diabetes mellitus and subpar education, practice, and awareness have raised the number of preventable deaths, expensive sequelae, and financial burden. The same outcome: diabetics in rural south India have 66.7% bad practices and 53.3% insufficient awareness of their condition (4)

In nations like India, where the number of people with diabetes mellitus is aggressively rising, Warshaw et al. noted the significance of patient counselling to change their KAP towards the condition. Spending money on patient counselling to raise their KAP score will greatly aid in reducing the effects of this disease..(6)

According to Ngoatle et al., appropriate client education and guidance regarding diabetes and its care are necessary to increase compliance and delay long-term problems.(7 Social media and school curricula can enhance knowledge and awareness of DM, according to Mujammami et al.(8) Coordinated educational programmes are urgently needed, with a priority on poorer, rural, and less educated groups, in order to prevent diabetes and its sequelae..(9)

According to Berhanu H et al., the delivery of DSME, assessment of prior knowledge of diabetes, the state of documentation after each session, and the presence of acceptable referrals or booking boosted compliance rate to 88%. The requirements for the existence of an individual education plan, knowledge of physical activity, self-monitoring of blood sugar, and avoidance of complications from diabetes all increased, respectively, by 0–75%, 6-75%, 4-60%, and 10–90%(10). An obvious improvement in post-test I and II findings supports the same conclusion derived from this investigation...

Akuiyibo stated that The awareness of diabetes increased in the study compare than the control group.(11)

Kumar and Kardas et al stated that the health education session can bring cogent changes to enhance their knowledge about diabetes and its risks. (12) (13).

Conclusion

Education plays a major role in changing the health behaviour of the diabetic clients. Reinforcement of prevention strategies improve the quality of life of diabetic clients and make their future in happiest way. Reinforcement of the educational intervention will raise awareness, practice, and lessen consequences related to diabetes mellitus

Conflict Of Interest:
The authors declare that there is no conflict of interest.

Authors Contribution

All authors hold significant and sincere participation in this research work and have

accepted it for publishing.

Funding

Nil.

Data Availability

Not applicable.

Ethical Statement

The study is accepted by the Institutional ethical committee of SRM Medical College

Hospital and Research Centre (IEC/1663/2019)

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