Research Paper

Volume : 4 | Issue : 9 | Sept 2015 • ISSN No 2277 - 8179

Effectiveness of Nursing Intervention on Attitude And Practice Related to Treatment Compliance Among Adolescents with Type 1 Diabetes Mellitus

Nursing

KEYWORDS : Attitude, Practice, Treatment compliance, Adolescents, Type 1 Diabetes Mellitus

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ABSTRACT

Type 1 diabetes mellitus is on the increase among all age groups including children. Adolescence is the period when a child tries to be independent. Having a chronic illness like diabetes requires positive attitude and good practice to manage the disease and to prevent complications. Education on treatment compliance proves to be effective to make them self-reliant.

Introduction:

Type 1 diabetes is a chronic illness that cannot be cured but managed with various treatment modalities like insulin, diet and exercise. The management aims at optimal glycemic control and prevention of disease related complications. Non adherence to treatment remains high and education is needed to improve the situation. (Riaz et al, 2014)1

The important components of treatment compliance are a positive attitude and effective practice of all the treatment activities. The adolescents require education and constant guidance to gain the attitude and skills for self-care.

Objectives

1. To assess the attitude and practice related to treatment compliance among adolescents with type 1 diabetes
2. To give structured teaching on self- care
3. To reassess the attitude and practice related to treatment compliance among adolescents with type 1 diabetes

Hypothesis

H1 - There will be a significant difference in the mean difference on attitude before and after nursing intervention and electronic reminder among adolescents with T1D in experimental group

H2 - There will be a significant difference in the mean difference on practice before and after nursing intervention and electronic reminder among adolescents with T1D in experimental group

H3 - There will be a significant difference in the mean difference on attitude among adolescents with T1D in experimental and control groups

H4 - There will be a significant difference in the mean difference on practice among adolescents with type 1 diabetes in experimental and control groups.

Materials and methods

Design

Pre-test-post-test control group design was used.

Setting

The study was conducted in a diabetic clinic in Coimbatore. On an average 4 to 5 children with

Population:

The population for the study included all the children attending the clinic. On an average 4 to 5 children with diabetes attend the clinic per day

Table.1.Distribution of Adolescents with T1D according to the Personal Factors

Sl. No	Variables	Exp. Group (n=65)		Control group (n=65)	
		F	%	F	%
1	Age of the child				
	a.10 – 12 yrs	27	41.5	24	36.9
	b.13 – 15 yrs	27	41.5	32	49.2
	c.16 – 19 yrs	11	17.0	09	13.9
2	Sex of the child				
	a. Male	37	56.9	33	50.8
	b. Female	28	43.1	32	49.2
3	Place of living				
	a. Urban	36	55.4	30	46.2
	b. Rural	15	23.1	18	27.6
	c. Semi urban	14	21.5	17	26.2
4	Religion				
	a. Hindu	43	66.2	42	64.5
	b. Muslim	12	18.4	11	17.0
	c. Christianity	10	15.4	12	18.5
5	Number of siblings				
	a. One	43	66.2	47	72.4
	b. Two	12	18.4	12	18.4
	c. None	10	15.4	06	9.2
6	Family Income Classification				
	a. High income group	19	29.2	17	26.2
	b. Middle income group	33	50.8	41	63.1
	c. Low income group	13	20.0	07	10.8
7	Educational status				
	a. Middle school	37	56.9	32	49.2
	b. High school	17	26.2	24	36.9
	c. Higher secondary	06	09.2	06	9.2
	d. Collegiate	05	07.7	03	4.6
8	Scholastic performance				
	a. A Grade	22	33.8	24	36.9
	b. B Grade	27	41.6	26	40.0
	c. C Grade	16	24.6	15	23.1
	d. D Grade	00	00	00	00

**Sig, p<0.05; *NS (p>0.05)

The table 1.shows the distribution adolescents with type 1 diabetes based on the personal factors. In experimental group major-

ity 27 (41.5%) were equally distributed in both 10 – 12 years and 13 – 15 years of age groups, 37 (56.9%) were males, 36 (55.4%) lived in urban 43 (66.2%) belonged to Hindu religion, 43 (66.2%) had one sibling. 33 (50.8%) belonged to middle income group family, 37 (56.9%) were studying in middle school i.e. 6th to 8th class, 27 (41.6%) got B Grade in their school performance. Table 2 shows the comparison of attitude related to treatment compliance among adolescents with T1D in experimental and control groups. In experimental group the pre-test mean of attitude towards insulin was 24.6 (SD + 3.83) and the post test mean was mean – 66.2 (SD +5.7). The mean difference was 41.6 ('t'=-52.3, p<0.05). In the control group the pre test mean was 24.4 (SD + 4.45) and the post test mean was 24.5 (SD + 3.83). The mean difference was 0.1 ('t'- -.306, p>0.05).

Table.2.Comparison of Attitude related to Treatment Compliance among Adolescents with T1D in Experimental and Control Groups

GROUP	VALUES	Att. to Insulin	Att. to Diet	Att. to Exercise
		Max. Score 91	Max. Score 105	Max. Score 98
		Mean ± SD		
EG n=65	Pre-test	– 24.6 ± 3.83	– 41.1 ± 5.56	– 38.4 ± 6.42
	Post – test	– 66.2 ± 5.7	– 73.6 ± 7.82	– 74.9 ± 7.49
	MD	41.6	32.5	36.5
	't'	- **52.3****	- **25.8****	- **39.6****
CG n=65	Pre-test	– 24.4 ± 4.45	– 41 ± 5.61	– 38.3 ± 6.08
	Post – test	– 24.5 ± 3.83	– 41 ± 4.65	– 38.3 ± 5.04
	MD	0.1	0	0
	't'	-.306*	.079*	-.134*

****Sig, p<0.05; *NS (p>0.05)**

Table 2 shows the comparison of attitude related to treatment compliance among adolescents with T1D in experimental and control groups. In experimental group the pre-test mean of attitude towards insulin was 24.6 (SD + 3.83) and the post test mean was mean – 66.2 (SD +5.7). The mean difference was 41.6 ('t'=-52.3, p<0.05). In the control group the pre test mean was 24.4 (SD + 4.45) and the post test mean was 24.5 (SD + 3.83). The mean difference was 0.1 ('t'- -.306, p>0.05).

With regard to attitude towards diabetic diet in the experimental group the pre test and post test means were 41.1 (SD + 5.56) and 73.6 (SD + 7.82) respectively with a mean difference of 32.5 ('t' = of -25.8, p<0.05). In the control group the pre test mean was 41 (SD + 5.61) and the post test mean also was 41 (SD + 4.65). The mean difference was 0 ('t'-.079, p>0.05).

Likewise in the experimental group the pre test mean of attitude towards exercise was 38.4 (SD + 6.42) and the post test mean was 74.9 (SD + 7.49). The mean difference was 36.5 ('t'= -39.6, (p<0.05). In the control group the pre test mean was 38.3 (SD + 6.08) and the post test mean also was also 41 (SD + 5.04). The mean difference was 0 ('t'= -.134, p>0.05).

Table.3. Comparison of Practice Related to Treatment Compliance among Adolescents with Type 1 Diabetes In Experimental and Control Groups

Group	Pre test	Post test	MD	't' value
	Max. Score = 15			
	Mean ± SD			
EG (n= 65)	– 4.08 ± 3.84	– 14.32 ± 2.22	10.24	**-19.9****
CG (n=65)	– 3.92 ± 4.2	– 4 ± 4	0.08	**-.332***

****Sig, p<0.05; *NS (p>0.05)**

Table 3 shows the comparison of practice related to treatment compliance among adolescents with type 1 diabetes in experimental and control groups. In experimental group the pre test mean value is

4.08, the post-test mean value is 14.32 and the mean difference is 10.24. The 't' value is -19.9 (p<0.05). In control group the pre test and the post test mean values are 3.92 and 4 respectively with a mean difference of 0.08. The 't' value is -.332 (p>0.05).

Discussion

Effective self- care is needed to prevent morbidity and mortality (Shrivastava et al, 2013)2 Education had been effective in improving the self- care behaviours. (Ali et al, 2014)3. The present study too reveals that there was a significant improvement in attitude and practice related to treatment compliance in the experimental group. There was a significant difference between pre-test and post-test mean values of attitude and practice. Hence H1 and H2 are accepted. Likewise there was a significant difference between experimental and control groups. Hence H3 and H4 are accepted. The change can be credited to the effectiveness of the nursing intervention.

Conclusion

Adolescents with T1D require proper education for good compliance to treatment, so that the blood sugar can be maintained within the desirable levels and the complications can be prevented. Thereby the quality of life can be improved.

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