

A STUDY TO ASSESS THE EFFECTIVENESS OF SELF INSTRUCTIONAL MODULE ON KNOWLEDGE REGARDING NEPHROTIC SYNDROME AND ITS HOME MANAGEMENT AMONG PARENTS OF CHILDREN WITH NEPHROTIC SYNDROME IN SELECTED HOSPITAL, GUWAHATI, ASSAM.

.Ms. C. Laldinpui, M.Sc.(N), Department of Pediatric Nursing, Faculty of Nursing, Assam down town University, Guwahati, Assam.

Mrs Nirmali Gogoi, Associate Professor, Department of Pediatric Nursing, Faculty of Nursing, Assam down town University, Guwahati, Assam.

Abstract:

Introduction and objectives: The Children of today are the resources of the future. Preservation of their lives will always be a priority. The infection of the genitourinary system commonly seen in children is Nephrotic syndrome. It is one of the several manifestations of glomerulonephritis. The study was attempted to assess the effectiveness of self instructional module on knowledge regarding nephrotic syndrome and its home management among parents of children with nephritic syndrome in selected hospital, Guwahati, Assam.

Materials and method: The research design adopted for this study was pre experimental, one group pre-test post-test design and evaluative research approach was adopted to evaluate the effectiveness of self-instructional module on nephrotic syndrome and its home management. A sample of 30 parents of children with nephrotic syndrome was selected by using purposive sampling technique. Initial knowledge of the parents on nephrotic syndrome and its home care management was determined by administering knowledge questionnaire. A validated SIM (self instructional module) on nephrotic syndrome and its home management was given to parents and its effectiveness was determined by post-test knowledge score.

Results and analysis: The result The finding of the present study reveals that the mean of post-test knowledge score (21.13) was higher than the mean of pre-test knowledge score (11.17). The obtained 't' value 24.09 was found to be significant at 0.05. This indicates that Self instructional module is effective. Significant association was found between the pre-test knowledge scores with number of times child hospitalized with nephrotic syndrome.

Discussion and conclusion: The finding of the study revealed that self-instructional module was found to be effective strategy for improving the knowledge of the parents of children with nephrotic syndrome on nephrotic syndrome and its home management.

KEY WORDS: Nephrotic syndrome, Home management, Self- instructional Module.

INTRODUCTION

The Children of today are the resources of the future. Preservation of their lives will always be a priority. Most of the children experience one or more episodes of illness. Many of them may be ill for short time and may not need hospitalization and some of them may need hospitalization and prolong treatment.¹ The infection of the genitourinary system commonly seen in children is Nephrotic syndrome². The first recorded description of Nephrotic syndrome dates to the 15th century. Today, Nephrotic syndrome is recognised as a common chronic illness in childhood. Although Nephrotic syndrome may be associated with many renal diseases, the most common form in childhood is Primary Nephrotic Syndrome.³ The incidence of idiopathic Nephrotic syndrome in the United States has been reported to be 2.7 new cases per 100,000 children per year, and the cumulative prevalence rate is 16 per 100,000 children. The ratio of males to females is approximately 2:1 during childhood, but the sex difference wanes by adolescence. There is an increased familial incidence, particularly among siblings.⁴

Primary Nephrotic syndrome (PNS) is a common renal disorder in the paediatric age group and minimal change disease (MCD) is the most common underlying histopathological lesion (80–90%). Majority of children with MCD are steroid sensitive and long term prognosis is benign. However, 40-50% show frequent relapses and a prolonged course of illness may pose children at risk of life threatening infections, thromboembolic complications and side effects of therapy.⁵

In Nephrotic syndrome 84.5% of all children with primary Nephrotic syndrome have minimal change Nephrotic syndrome, 9.5% have focal segmental glomerulosclerosis, 2.5% have mesangial proliferation, and 3.5% have membranous nephropathy or another cause of the diseases⁶

Over 10 years, the overall incidence increased from 1.99/100,000 to 4.71/100,000 among children ages 1–18 years old. In 2011, South Asians had a higher incidence rate ratio of 6.61 compared with Europeans.⁷

A study conducted on 206 Indian children with Nephrotic syndrome showed a primary renal cause in 195 (96%), of which 77% were boys. In 126 children (96 boys, 30 girls) onset of the disorder occurred before the age of 5 years. Renal biopsy showed minimal lesions in 150 patients (77%), in 85 of these biopsy was done 3 months to 16 years after onset of the Nephrotic syndrome. The findings suggest that the pattern of idiopathic Nephrotic syndrome in Indian children is similar to that reported from Western countries in childhood Nephrotic syndrome.⁸

Home monitoring of urine protein and fluid status is an important aspect of management. All patients and parents should be trained to monitor first morning urine proteins at home with urine dipstick. Urine testing at home is also useful in monitoring response (or non response) to steroid treatment.⁹

The quantity of parental information concerning symptoms of Nephrotic syndrome disease recurrence is insufficient. Therefore upgrading parental awareness and knowledge through educational courses and providing comprehensive and necessary information concerning disease, signs and symptoms, and prevention of its complications can greatly improve the quality of the cares levels and to live healthy. So, the researcher is motivated to provide education through self instructional module regarding home care management of Nephrotic syndrome.

MATERIALS AND METHODS

A pre-experimental and evaluative research approach was used with one group pre-test post-test design to evaluate the effectiveness of SIM. The study was conducted in pediatric medicine ward, GMCH, Guwahati, Assam. A sample of 30 parents of children with nephrotic syndrome was selected by using purposive sampling technique. Initial knowledge of the parents on nephrotic syndrome and its homecare management was determined by administering knowledge questionnaire.

Ethical clearance from institutional ethical committee was obtained. The written permission was obtained from the authority prior to the data collection. The purpose of the study was explained to them and informed consent was obtained from the participants. A pre-test with the knowledge questionnaire was given on the first day, followed by a copy of validated SIM on nephrotic syndrome and its home management was given to parents and post-test was done after 7 days using the same questionnaires.

Schematic presentation of study design

Group	Pre-test	Intervention	Post- test
Parents of children with nephrotic syndrome	O1 (Dependent variable)	X (Independent variable)	O2 (Dependent variable)

O1= Assessment of pre-test knowledge on the 1st day by using structured questionnaire.

X = Administration of self instructional module on the first day

O1 = Assessment of post-test knowledge on the 7th day by using structured questionnaire.

RESULTS AND DISCUSSION

The data gathered were analysed by using descriptive and inferential statistics. In order to find the effectiveness paired 't' test was computed. Chi square was computed to find association between pre-test knowledge and selected demographic variables.

Findings of the study showed that majority of the father i.e. 53.33% were in the age group of 26-30 years and majority of the mother i.e. 53.33% were in the age group 24-29 years. Majority of the father i.e. 76.67% were primary passed and majority of mother i.e. 96.67% were primary passed. Majority of the occupation of the father i.e. 60% were daily labour and majority i.e. 100% of the mother were housewife. Majority i.e. 73.33% earn Rs. 9001- 15000 per month. Majority of the parents i.e. 83.33% belongs to Hindu, 13.34% belongs to Muslim and 3.33% belongs to Christian. Majority i.e. 93.33% belongs to nuclear family and 6.67% belongs to joint family. Majority i.e. 96.67% of the patient doesn't have any family history of Nephrotic Syndrome. Majority of the children i.e. 50% suffering from Nephrotic Syndrome belongs to the age group 4 -6 years. Majority i.e. 56.67% of the patient were male and 43.33% were female. Majority of the children i.e. 80% suffering from Nephrotic Syndrome were first born child and 20 % were second born. Majority i.e. 50% were the first time the patient get hospitalized with nephrotic syndrome

Table 1: Aspect wise Pre - test Mean knowledge scores of parents.

n=30

No.	Aspects	Statements	Max. score	Range score	knowledge aspect		
					Mean	Mean (%)	SD (%)
I	Information about nephrotic syndrome	6	6	2-4	2.6	43.33	11
II	Types/causes	3	3	0-1	0.4	13.33	23.67
III	Sign and symptoms	4	4	1-3	1.37	34.25	13.75
IV	Home management of nephrotic syndrome	14	14	3-11	5.3	37.86	10.78
V	Prevention and complication	3	3	1-3	1.5	50	18.67
	Combined	30	30	7-21	11.17	37.23	10.23

The data in **Table 1** shows the distribution of aspect wise pre-test mean knowledge scores. Regarding information about nephrotic syndrome, the knowledge score was 43.33%, in the aspect of types/causes the knowledge score was 13.33%, in the aspect of sign and symptoms, the knowledge score was 34.25%,

in the aspect of home management of nephrotic syndrome, the knowledge score was 37.86%, in the aspect of prevention and complication, the knowledge score was 50%.

Table 2: Aspect wise Post - test Mean knowledge scores of parents.

n=30

No.	Aspects	Statements	Max. score	Range score	knowledge aspect		
					Mean	Mean (%)	SD (%)
I	Information about nephrotic syndrome	6	6	4-6	4.67	77.83	9.83
II	Types/causes	3	3	1-2	1.33	44.33	15.67
III	Sign and symptoms	4	4	2-4	2.7	67.5	9.5
IV	Home management of nephrotic syndrome	14	14	7-12	9.87	70.5	11.14
V	Prevention and complication	3	3	2-3	2.47	82.33	20
	Combined	30	30	16-26	21.13	70.43	8.83

The data in **Table 2** depicts the distribution of aspect wise post-test mean knowledge scores. Regarding information about nephrotic syndrome, the knowledge score was 77.83%, in the aspect of types/causes the knowledge score was 44.33%, in the aspect of sign and symptoms, the knowledge score was 67.5%, in the aspect of home management of nephrotic syndrome, the knowledge score was 70.5%, in the aspect of prevention and complication, the knowledge score was 82.33%.

Table 3: Mean, Standard deviation, t-value of knowledge score of parents regarding nephrotic syndrome and its home management

n=30

Knowledge score	Mean	SD	Mean difference	t value (paired t-test)	df	p value
Pre - test	11.17	3.07	9.96	24.09	29	<0.05*
Post - test	21.13	2.65				

* Significant

The data presented in **Table 3** shows that the mean pre test was 11.17 while for post test was 12.13. The standard deviation of pre-test was found to be 3.07 and the standard deviation of the post-test found to be 2.65 and the mean difference was 9.96. In order to find out whether the difference was significant, 't' value was computed and 't' value (t_{29})=24.09 was found to be significant.

This is supported by a study conducted by Archana Lohave on “A study to assess the effectiveness of self instructional module on knowledge regarding Nephrotic Syndrome and its home management among parents of children with Nephrotic Syndrome at selected Hospitals of Wardha District.” The study reveals that there is significant difference between the mean pre test and post test knowledge score, where pre test score is 5.20 and post test score is 10.30 indicating that self instructional module was effective.¹⁰

Table 4: Frequency and percentage of pre- test and post- test knowledge scores of parents regarding nephrotic syndrome and its home management

n=30

Knowledge level	Range	Pre- test		Post- test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Adequate	21-30	1	3.33	19	63.33
Moderate	11-20	9	30	11	36.67
Inadequate	0-10	20	66.67	0	-
Total		30	100	30	100

The data in **Table 4** shows that the majority of the parents, majority i.e. 20 (66.67%) had inadequate knowledge, 9 (30%) parents had moderate knowledge and 1(3.33%) had adequate knowledge in the pre-test knowledge regarding nephrotic syndrome and its home management. In the post-test knowledge level, majority i.e. 19 (63.33%) parents had adequate knowledge and 11 (36.67%) parents had moderate knowledge regarding nephrotic syndrome and its home management.

This is supported by a study conducted by Mamatha M, Chandrashekar and Prof. Sheela Williams on “A study to assess the effectiveness of informational booklet on knowledge regarding Nephrotic Syndrome and its home management among parents of children with Nephrotic Syndrome at selected Hospitals of Mysuru.” The study reveals that the pre test 75% of parents with Nephrotic Syndrome were having inadequate knowledge, 21.6% of parents with Nephrotic Syndrome had moderate level of knowledge and 3.3% have adequate knowledge regarding nephrotic syndrome and its home management. In post test 6.6% had inadequate, 50% have moderate and 43.3% had adequate knowledge score. The result of the study reveals that there is significant difference between the mean pre test and post test knowledge score, where pre test score is 14.62 and post test score is 24.23.¹¹

Table 5: Association between pre-test knowledge with selected demographic variables (parents)

n=30

Sl no.	Demographic variables	Knowledge Score			χ^2	df	p-value	Inference
		Inadequate	Moderate	Adequate				
1.	Age of father (in years)				3.69	8	15.51	NS
	a) 20-25	4	3	0				
	b) 26-30	12	3	1				
	c) 31-35	2	2	0				
	d) 36-40	1	1	0				
e) Above 40	1	0	0					
2.	Age of mother(in years)				1.92	8	15.51	NS
	a) 18-23	8	4	0				
	b) 24-29	10	5	1				
	c) 30-35	2	0	0				
	d) 36-41	0	0	0				
e) Above 41	0	0	0					
3.	Education of father				12.26	8	15.51	NS
	a) Primary passed	8	4	0				
	b) High school passed	2	3	1				
	c) Higher Secondary passed	0	1	0				
	d) Graduate	0	0	0				
e) Post Graduate and above	0	0	0					
4.	Education of mother				2.41	8	15.51	NS
	a) Primary passed	20	8	1				
	b) High school passed	0	1	0				
	c) Higher Secondary passed	0	0	0				
	d) Graduate	0	0	0				
e) Post Graduate and above	0	0	0					
5.	Occupation of father				6.04	8	15.51	NS
	a) Government employee	0	0	0				
	b) Private employee	0	0	0				
	c) Daily labour	15	3	0				
	d) Unemployed	0	0	0				
e) Business	5	6	1					

6.	Occupation of mother							
	a) Government employee	0	0	0				
	b) Private employee	0	0	0	0	8	15.51	NS
	c) Housewife	20	9	1				
	d) Unemployed	0	0	0				
	e) Business	0	0	0				
7.	Family income per month(in rupees)							
	a) Below 9000	6	0	0				
	b) 9001-15000	13	8	1				
	c) 15001-20000	1	1	0	4.08	8	15.51	NS
	d) 20001-25000	0	0	0				
	e) 25001 and above	0	0	0				
8.	Religion							
	a) Hindu	18	6	1				
	b) Muslim	2	2	0				
	c) Christian	0	1	0	3.6	6	12.59	NS
	d) Others(specify)	0	0	0				
9.	Type offamily							
	a) Nuclear family	19	8	1				
	b) Joint family	1	1	0	1.12	4	9.49	NS
	c) Extended	0	0	0				
10.	Family history of nephrotic syndrome							
	a) Yes	1	0	0	0.50	2	5.99	NS
	b) No	19	9	1				

(Child with nephrotic syndrome)

Sl no.	Demographic variables	Knowledge Score			χ^2	df	p-value	Inference
		Inadequate	Moderate	Adequate				
1.	Age							
	a) Birth – 3 years	10	1	0				
	b) 4 – 6 years	10	4	1				
	c) 7 – 9 years	0	2	0	10.43	6	12.59	NS
	d) 10 – 12 years	0	2	0				
2.	Gender							
	a) Male	12	4	1				
	b) Female	8	5	0	1.39	2	5.99	NS
3.	Birth order							
	a) First	16	7	1				
	b) Second	4	2	0	0.27	4	9.49	NS
	c) Third and above	0	0	0				

4.	Number of times child hospitalized with nephrotic syndrome							
a)	Once	14	1	0				
b)	Twice	5	4	0	15.42	6	12.59	S
c)	Thrice	0	1	0				
d)	More than 3 times	1	3	1				

NS: Not significant S: Significant

The findings presented in **Table 5** shows that the computed χ^2 value for number of times child hospitalized with nephrotic syndrome was significant at 0.05 levels. It is therefore concluded that significant association was found between the pre-test knowledge scores with number of times child hospitalized with nephrotic syndrome.

This is supported by a study conducted by Purbasha Chakraborty on “Effectiveness of structured teaching programme regarding home care management of children with nephrotic syndrome in terms of knowledge among the care givers in selected hospital at Kolkata, West Bengal which shows that the selected demographic variables such as no. of hospitalization due to nephrotic syndrome, duration of suffering were having significant association with the pre-test knowledge score regarding home care management of children with nephrotic syndrome.¹²

A study conducted by Elangbam Aruna Devi, Dr. Sneha Pitre and Bhagyashree Jogdeo on “The effectiveness of information booklet on knowledge among care givers regarding care of child with nephrotic syndrome in selected hospitals of Pune City.” The study concluded that the information booklet was effective in terms of enhancing the knowledge of caregivers and also found that there was a significant association between knowledge of caregiver of child with nephrotic syndrome with age of care giver.¹³

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CONCLUSION

The present study was aimed to assess the effectiveness of self-instructional module on knowledge of parents regarding nephrotic syndrome and its home management. The result shows that there was a significant improvement in the knowledge of the parents after administering SIM. Hence it was concluded that the self-instructional module was found to be effective strategy for improving the knowledge of the parents regarding nephrotic syndrome and its home management.

REFERENCE:

1. Michael Bury (University of London). Health and Illness. 1st ed. UK. John Wiley and Sons Ltd; 2005 Available from <http://www.polity.co.uk/book.asp?ref=9780745630304>
2. Kidney Diseases. Available from http://www.kidney.niddk.nih.gov/kudiseases/pubs/childkidneydiseases/nephrotic_syndrom/
3. Allison AE, Jordan MS. Seminar on Nephrotic syndrome in childhood. The Lancet 2003; 3(62): 629–39. Available from www.thelancet.com
4. Roberto G, Adrian S. The Nephrotic Syndrome. Pediatrics in Review. 2009;30(2):94-104 Available from <http://pediatrics.georgetown.edu/documents/Nephrotic%20Syndrome.pdf>
5. Khemchand NM, Mukesh R. Spectrum of infection in children with newly diagnosed primary nephrotic syndrome. Pakistan journal of medical research. 2012 January-March;51(1):45-6
6. Jerome CL. Pediatric Nephrotic Syndrome. 2015 : Available on <http://emedicine.medscape.com/article/982920-overview#a0101>
7. Tonny H.M.B, Neesha HS, Viral P, Jovanka VR, Karlota B, Cathryn S, Deborah L, Josefina B. Ethnic Differences in Incidence and Outcomes of Childhood Nephrotic Syndrome [internet] 2016 [cited 20 nov 2018]; Available from <https://doi.org/10.2215/CJN.0038011>
8. R N Srivastava, G Mayekar, R Anand, V P Choudhry, O P Ghai, H D Tandon. Nephrotic syndrome in Indian children.. Arch Dis Child. 1975;50:626-63
9. Jerome C Lane, Craig B Langman. Pediatric Nephrotic syndrome. 2013. <http://emedicine.medscape.com/artical /982920-overview>
10. Lohave MA .Effectiveness of self instructional module on knowledge regarding 2018 [cited on 23 nov 2018] Available from <https://wwjournals.com/index.php/ijsr/article/view/2716>
11. Mamatha. M, Chandrashekar. M., Sheela W Effectiveness of Information Booklet on Knowledge regarding Nephrotic Syndrome and its Home Care Management among Parents of Children with Nephrotic Syndrome at selected Hospitals of Mysuru. International journal of nursing education and research. 2013; 3(3):284-287
12. Purbasha C. Effectiveness of Structured Teaching Programme Regarding Home Care Management of Children with Nephrotic Syndrome in Terms of Knowledge among the Care Givers in a Selected Hospital at Kolkata, West Bengal. International Journal of Science and Research .2016;79(3):961-2
13. Elangbam A.D., Dr. Sneha P, Bhagyashree J. Effectiveness of information booklet on knowledge among caregivers regarding care of child with nephrotic syndrome. International journal of applied research. 2017 (June); 3(7):610-15