

“A Study to assess the effectiveness of structured teaching programme on knowledge regarding management of Nephrotic syndrome in children among staff nurses working at SKIMS, Soura, Srinagar”

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Abstract

INTRODUCTION: The growth and development of child is affected by health problems. Some of the illness may make them disable temporarily or permanently. Infections like pneumonia, primary peritonitis and septicemia are responsible for high morbidity and mortality leading to multi organ failure. The mild infections like acute upper respiratory tract infections, diarrhea and urinary tract infections may be responsible for exacerbation of proteinuria and recurrent relapses of Nephrotic syndrome.¹

AIM: To assess and provide the knowledge on management of Nephrotic syndrome in children among staff nurses.

MATERIALS AND METHODS: A pre -experimental one group pre-test and post-test design was used for the study. Convenient sampling technique was used for selection of 50 staff nurses from accessible population.

RESULTS: The knowledge level of study subjects regarding management of Nephrotic syndrome in children showed that in pre-test maximum number of the study subjects 70% had unsatisfactory knowledge and 30% of study subjects had satisfactory knowledge regarding management of Nephrotic syndrome in children. Where as in post-test majority of the study subjects (96%) had satisfactory knowledge and least number of study subjects (4%) had unsatisfactory knowledge regarding management of Nephrotic syndrome in children. The mean post-test knowledge score (1.73 ± 0.458) of the study subjects regarding management of Nephrotic syndrome in children is significantly higher than that of the mean pre-test knowledge score (32.62 ± 7.157) at 0.05 level of significance. This indicates that structured teaching programme was effective in enhancing the knowledge of staff nurses regarding management of Nephrotic syndrome in children. There was no significant association between pre-test knowledge score and the selected demographic variables like age, gender, qualification and years of experience.

CONCLUSION: The findings of the study concluded that staff nurses were having little knowledge regarding management of Nephrotic syndrome in children. The structured teaching programme was found effective in increasing the knowledge level of study subjects.

Keywords: Effectiveness, structured teaching programme, knowledge, pre-test, post-test, Nephrotic syndrome.

INTRODUCTION AND BACKGROUND

Nephrotic syndrome is the clinical manifestation of glomerular diseases associated with heavy proteinuria (>3.5 g/24 hr.). The triad of clinical findings associated with nephrotic syndrome arising from urinary protein losses are Hypoalbuminemia (<2.5g/dl), edema, and hyperlipidemia (cholesterol >200mg/dl).²

The prevalence of Nephrotic syndrome is estimated approximately 16 cases /100,000 children. The annual incidence of nephrotic syndrome has been estimated to be 2-7 cases /100,000 children worldwide. In younger children, boys are more prone to nephrotic syndrome than girls by 2:1. The peak age of nephrotic syndrome is 2 years, with approximately 60-70% of cases occurring in children less than 6 years of age.³ Nephrotic syndrome is categorized into two forms: **Primary Nephrotic syndrome and Secondary Nephrotic syndrome.** **Primary Nephrotic syndrome (PNS)** is a common renal disorder in the paediatric age group and **minimal change disease (MCD)** is the most common underlying histo- pathological lesion (80–90%) among primary nephrotic type. **Focal segmental glomerulosclerosis (FSGS)** describes a typical histologic pattern resulting from different glomerular

diseases having almost the same morphological features as minimal change disease. **Mesangial proliferative nephrotic syndrome** or Membranoproliferative glomerulonephritis accounts 2-5% of cases in children and involves immune complex deposition which appears as granular pattern seen on immunofluorescence staining. **Secondary nephrotic syndrome** occurs in children about 10 % of all cases. This condition may occur due to some form of chronic glomerulonephritis, or due to other systemic diseases.⁴ Main aim of therapeutic management in Nephrotic syndrome is to reduce excretion of protein in urine, reducing retention of fluids in tissues, preventing infections and minimizing complications related to therapies.⁵ Treatment for nephrotic syndrome includes initial treatment with prednisolone and nonspecific treatment as antihypertensive therapy, Immunosuppressive drugs and antibiotic prophylaxis. Children with mild to moderate edema may be managed in out-patients clinics ^{5,6}

Nurses have a major role in teaching children and family to report immediately any change in temperature or physical appearance (color, activity and edema). They may teach family how to monitor urinary proteins to assess proteinuria, initiate strategies to prevent infections by using aseptic technique, assess child's urinary output, maintain fluid balance to prevent hypovolemia or hypervolemia, monitoring for hematuria, prevent thrombosis, and assess the treatment schedule (diuretic therapy, steroid therapy and immunization) to prevent hypovolemic shock, hypertension, growth failure and iatrogenic infections.⁷

El- Shahat, MoghnyAttia, Elwahab& Ahmed (2018)⁸ conducted a Quasi-experimental study on effect of an educational program on knowledge and practice of nurses who were caring nephrotic syndrome children, Cairo, Egypt on 57 pediatric nurses. The results of the study revealed that pre-test knowledge score of 50.9% were having satisfactory knowledge and 49.1% were having unsatisfactory knowledge while post-test knowledge score of 86.0% of nurses had satisfactory knowledge and 14% had unsatisfactory knowledge, also 36.8% were having adequate practice and 63.2% were having inadequate practice before implementation of program while 71.9% were having adequate practice and 28.1 % were having inadequate practice after implementation of program. There was a positive correlation between nurse's knowledge and age (years) at $p=0.029$, educational level at $p=0.619$, general experience /years at $p=0.176$, Pediatric experience /years at $p=0.042$, also their significant positive correlations was between total practice score and age at ($p=0.001$), general experience ($p=0.015$), and also with pediatric experience at ($p=0.016$).

Jabber and Nasir (2017)⁹ conducted a quasi-experimental study on effectiveness of an educational program on nurses' knowledge about management of children with nephrotic syndrome in nephrology units at Al- Najaf Teaching Hospitals in Kufa, Egypt among 30 nurses (divided into two groups: study group 15 nurses and control group 15 nurses). The findings of the study revealed that **11 (73.3%)** had satisfactory knowledge, **4 (26%)** had unsatisfactory knowledge. The mean percentage score obtained was **1.27** with SD of **0.458**, showing that the effectiveness of educational program regarding nurses' knowledge about management of children with nephrotic syndrome.

While working in pediatric wards, the researcher found that usually the children were admitted with recurrent infections associated with nephrotic syndrome. During the nursing care, the researcher found that Staff Nurses were having inadequate knowledge regarding management of children with nephrotic syndrome which motivated the researcher to undertake this topic for research purpose.

OBJECTIVES OF THE STUDY

1. To assess the pre- test knowledge score regarding management of Nephrotic syndrome in children among staff nurses
2. To assess the post- test knowledge score regarding management of Nephrotic syndrome in children among staff nurses
3. To evaluate the effectiveness of structured teaching programme on knowledge regarding management of Nephrotic syndrome in children among staff nurses by comparing pre- test and post- test knowledge scores.
4. To find the association of pre -test knowledge scores regarding management of Nephrotic syndrome in children among staff nurses with their selected demographic variables (Age, Gender, Professional qualification and Working experience).

HYPOTHESIS

- H1:** There is significant increase in the mean post-test knowledge score as compared to mean pre-test knowledge score among staff nurses regarding management of nephrotic syndrome in children at 0.05 level of significance
- H2:** There is significant association between pre-test knowledge score among staff nurses regarding management of Nephrotic syndrome in children with their selected demographic variables (Age, Gender, Professional qualification, Working experience) at 0.05 level of significance.

MATERIALS AND METHODS

Research approach and design: A pre -experimental one group pre-test and post-test design was used for the study

Sample and Sampling Technique: The sample size for the present study comprised of 50 Staff Nurses working in various pediatric areas (PICU, NICU, pediatric medicine, pediatric surgery and pediatric emergency) and Nephrology ward of SKIMS, Soura, and Kashmir. For the present study non-probability convenient sampling technique was adopted.

Description of the tool: Self-structured questionnaire was used as the research tool to get responses from the subjects. It was divided into two sections:

- **Section 1:** Related to demographic data.
- **Section 2:** Related to knowledge assessment on management of Nephrotic syndrome in children and was sub-divided into six parts.

Procedure for data collection:

Informed written consent was obtained from the study subjects to confirm their willingness to participate. The data was collected individually from the subjects through 60 itemed structured knowledge questionnaire which took an average of 30-35 minutes per subject. After a break of 15 minutes to each subject, structured teaching programme was administered individually to subjects for 40 -45 minutes per subject. The subjects were post-tested on every 7th day of intervention following the same procedure as in the pretest. The time duration for the post-test per subject was 30 – 35 minutes. 2-3 subjects were taken on every day and same schedule was used for data from other study subjects. The results of the data were recorded in the master data sheet and analyzed by using descriptive and inferential statistics.

ETHICAL CONSIDERATION

The researcher has taken permission from the parent institution (Sher-i-Kashmir Institute of Medical Science and Mader-e-Meherban Institute of Nursing Sciences and Research) to conduct research study and ethical clearance was obtained and study was found ethically exempted.

RESULTS OF PRESENT STUDY

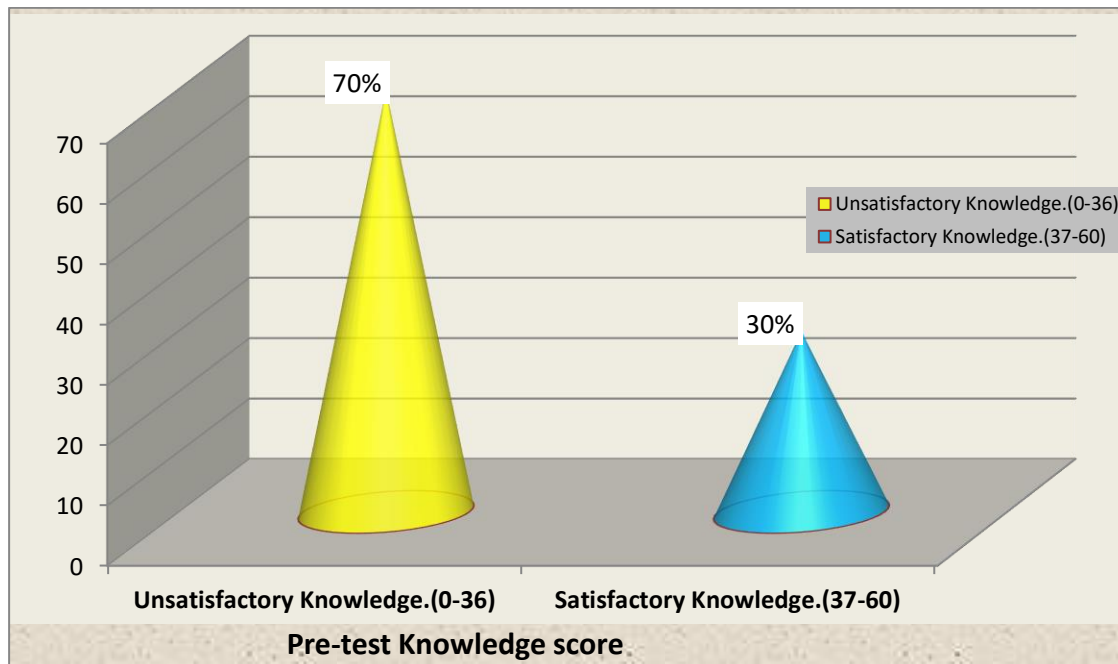
The results of the present study are presented in the following sections.

SECTION I: Description of demographic variables of study subjects

Out of 50 study subjects, majority of study subjects were in the age group of 21-30 years (**48%**), **26%** were in the age group of 31-40 years, **24%** were in the age group of 41-50 years, **2%** were in the age group of >50years. Majority of study subjects **84%** were females and **16%** were males. Maximum number of study subjects having professional qualification of **60%** were B.Sc, **18%** were GNM and only **22%** were M.Sc. and above. Majority of study subjects **62%** were having 1-5 years of experience, and **20%** were having 6-10 years of experience, **14%** were having 16-20 years of experience, **2%** were having 11-15years of experience, and **2%** were having 21 and above years of working experience.

SECTION II: Description of pre-test level of knowledge scores of nurses regarding management of nephrotic syndrome in children.

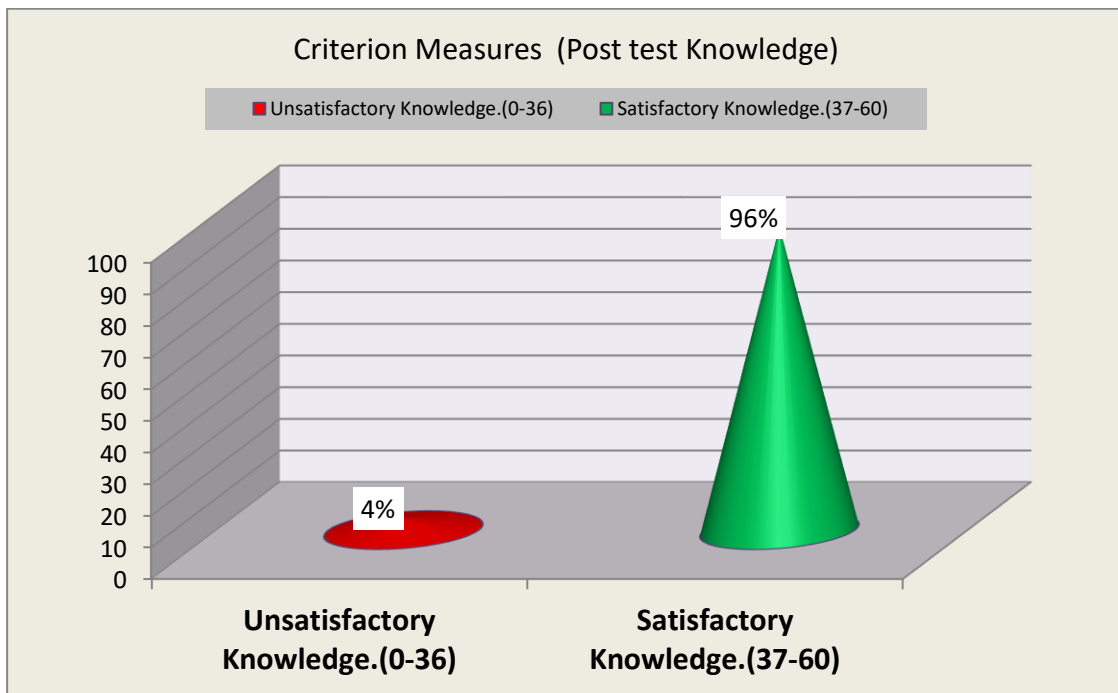
Figure No 1: Frequency and percentage distribution of pre-test knowledge scores of study subjects.



Majority of study subjects 70% had unsatisfactory level of knowledge regarding management of Nephrotic syndrome in children and 30% had satisfactory level of knowledge regarding management of Nephrotic syndrome in children in pretest.

SECTION III: Description of post-test level of knowledge scores of nurses regarding management of Nephrotic syndrome in children.

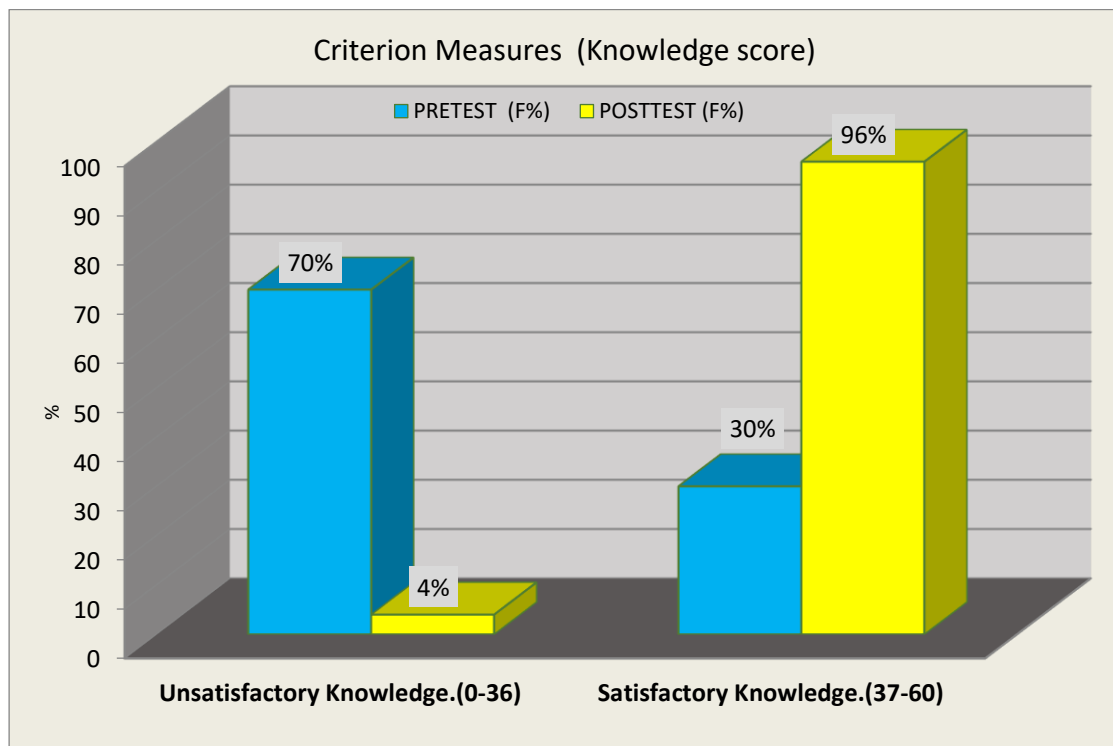
Figure 2: Frequency and percentage distribution of post-test knowledge score of study subjects.



Majority of study subjects 96% were having satisfactory level of knowledge and 4% were having unsatisfactory level of knowledge regarding management of Nephrotic syndrome in children after intervention (post-test).

SECTION IV: Comparison between pre-test and post-test knowledge scores of study subjects regarding management of nephrotic syndrome in children.

Figure 3: Frequency and percentage distribution of Comparison of Pre-test and Post-test Knowledge Scores of Study Subjects.



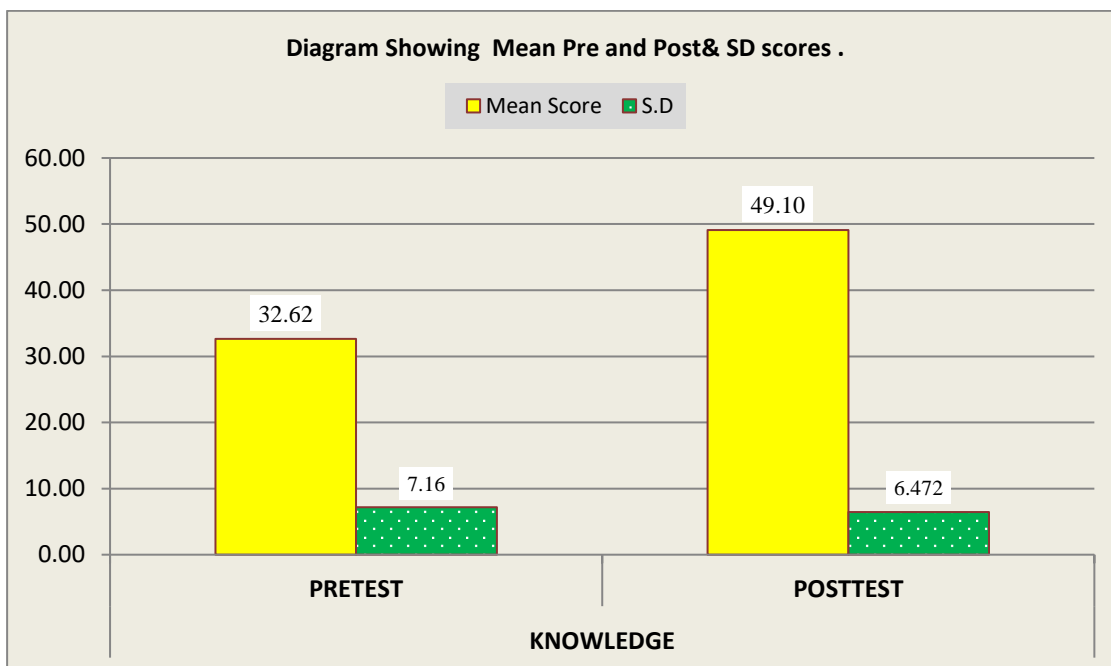
In pre-test most of the study subjects 70% had unsatisfactory knowledge, 30% had satisfactory knowledge, whereas in post-test the study subjects 96% had satisfactory knowledge and only 4% had unsatisfactory knowledge. This indicated that all the subjects had gained knowledge in post-test.

Table 1: Comparison of Mean Pre-test and Post-test Knowledge Scores and SD of Study Subjects.

n=50

Knowledge	Mean±SD	Mean difference	t VALUE	P –VALUE
PRETEST	32.62±7.157	16.480	21.404	<0.001*
POSTTEST	49.1±6.472			

Figure 4: Frequency and percentage distribution of comparison of Mean Pre-test and Post-test Knowledge Scores and SD of Study Subjects.



There is a difference in the mean pre-test and post-test knowledge scores.

SECTION V: Association of pre-test knowledge scores regarding management of nephrotic syndrome in children among staff nurses working in nephrology and pediatric areas of skims with their socio-demographic variables.

Table 2: Association of pre-test knowledge level of study subjects with their demographic variables. n=50

Association Of Pretest Knowledge Scores of with selected Demographic Variables.								
Variables	Opts	Satisfactory Knowledge	Unsatisfactory Knowledge	Chi Test	P Value	df	Table Value	Result
Age in years	21-30	5	19	6.273	0.099	3	7.815	Not Significant
	31-40	3	10					
	41- 50	7	5					
	> 50	0	1					
Gender	Male	14	28	1.389	0.239	1	3.841	Not Significant
	Female	1	7					
Professional Qualification	GNM	4	5	1.626	0.444	2	5.991	Not Significant
	Basic B.Sc. (N)	9	21					
	M.Sc and above	2	9					
Working experience	1-5	6	25	7.367	0.118	4	9.488	Not Significant
	6-10	4	6					
	11-15	1	0					
	16-20	4	3					
	21 and above	0	1					

There was no significant association between pre-test knowledge level of study subjects with their professional qualification, age, gender, working experience and professional qualification.

DISCUSSION

Study showed that the maximum number of study subjects possessed unsatisfactory knowledge (%) and satisfactory knowledge in pre-test. While majority of study subjects possessed satisfactory knowledge (%) and (%) were having unsatisfactory knowledge in post-test. There is a mean difference of 16.480 in mean pre-test and mean post-test comparison. There was no significant association between pre-test knowledge level of study subjects with their professional qualification, age, gender, working experience and professional qualification. The findings are consistent with a study conducted by **Jabber and Nasir (2017)**⁹ to assess "Effectiveness of an educational program among nurse's knowledge regarding management of children with nephrotic syndrome" in **Kufa, Egypt**. The findings of the study revealed that **11 (73.3%)** had satisfactory knowledge, **4 (26%)** had unsatisfactory knowledge in post-test. The mean percentage score obtained was **1.27** with SD of **0.458**, showing that the effectiveness of educational program regarding nurses' knowledge about management of children with nephrotic syndrome.

CONCLUSION

The study concluded that the study subjects lack adequate knowledge regarding management of nephrotic syndrome in children. The mean post-test knowledge score of study subjects improved after administration of the structured teaching program indicated that the structured teaching program was effective for enhancing the knowledge of Staff Nurses regarding management of Nephrotic syndrome in children. Therefore awareness programs about the management of nephrotic syndrome in children should be conducted.

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