Effect of Maternal Health Educational Program on Improvement of Care Provided to Their Nephrotic Children

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Abstract:

Background: Nephrotic syndrome is a chronic illness characterized by relapses and remission. Mothers and their children should be discharged from the hospital with complete instructions about management. **Aim:** The aim of the present study was to evaluate the effect of maternal health educational program on improvement of care provided to their nephrotic children. **Setting:** The study was conducted at The Pediatric Nephrology Unit and The Pediatric Out- Patient Nephrology Clinic at Zagazig University Hospitals. **Sample:** Convenient samples of 50 mothers having children suffering from nephrotic syndrome who accompany their children participate in this study. **Tools:** Tools for data collection included a structured interview questionnaire to assess mothers' knowledge about care of nephrotic syndrome& observational checklist to assess mothers' practice toward the associated problems of their nephrotic children. **Results:** The study results revealed that there were statistical significant differences in relation to the total practice score of the nephrotic children's mothers throughout the three phases of the educational program. **Conclusion,** it was concluded that the educational program has a positive effect on mothers' practice regarding care provided to their nephrotic children. **Recommendation** of this study was to continue educational programs for mothers of nephrotic children to provide them with essential knowledge about the disease and its management.

Key words: Nephrotic Syndrome (NS), maternal, health educational intervention.

Introduction:

Nephrotic syndrome is a clinical entity characterized by massive loss of urinary protein (primary albuminuria), leading to hypoproteinemia (hypoalbuminemia), and its result edema. Hyperlipidemia, hypercholesterolemia, and increased lipiduria are usually associated. Hypertension, hematuria, and azotemia may occur. [1]

Nephrotic syndrome is a relatively common chronic childhood disorder with an annual incidence of 2 to5 per 100,000 children and a prevalence of 15 per 100,000 children. The peak age at onset is 2 to 6 years with a boy to girl ratio of 3:2.Three to 5% of children with minimal change nephrotic syndrome has an affected sibling. Familial NS is similar to nonfamilial NS in its presentation, histopathologic features, steroid response, and clinical course. [2]

The medical management aims to reduce proteinuria, controlling edema, preventing infection, minimizing complications related to therapies and other associated physiological disruptions**.** [3]

Educational program proved to be an important mean to provide mother with theoretical and technical information needs. [4] Mother education is known to have many

positive effects on child with life threatening illness, including increase of knowledge retention, improve pain management, decrease length of hospitalization, and improve child adherence to their medical regimen. (5) The nursing care of the child with nephrosis is of greatest significance because this disease requires long-term therapy. The child might be hospitalized periodically and becomes a familiar personality to hospital personnel. The major nursing goals for the child with nephrotic syndrome are relieving edema, improving nutritional status, maintaining skin integrity, and preventing infection. The nurses' goals include instructing parents about the disease and treatment, as well as learning them ways to cope with the child's long term care. (6)

Aim of the study:

This study aimed to evaluate the effect of maternal health educational program on improvement of care provided to their nephrotic children

Research Hypothesis:

Mothers will give better care to their nephrotic children after implementation of the educational program.

Significance of the study:

Nephrotic syndrome is a chronic condition that needs long term care and usually managed at home during exacerbations so, the nurse must provide parents a written plan about the disease and the care provided to their children to ensure the properness of this care to help the parents follow the program successfully, allow them feel comfortable with caring for their children and to enhance children's health and increase their survival rate.

Subjects and methods:

Research Design:

A quasi-experimental design was used in carrying out the study.

Study Setting:

This study was conducted at two setting

- The Pediatric Nephrology Unit
- The Pediatric Out- Patient Nephrology Clinic at Zagazig University Hospitals.

Subjects:

This study included a convenient sample of 50 mothers having children suffering from nephrotic syndrome who accompany their children were recruited to participate in this study. The sample met the following criteria:

*** Children:**

- Age ranged between 1-18 years.
- Both sexes.
- Free from any other diseases.

*** Mothers:**

- Mothers who have no previous exposure to nephrotic children or any nephrotic patient.
- Should agree to participate in the study.

***Tools of data collection*:**

Two tools were developed by the researcher to collect the necessary data **Tool (I):** A structured interview questionnaire was developed to collect the following data:

Part (1): characteristics of the subjects such as:

- Children's characteristics as age, sex, birth order, education and residence.
- Medical data of the child as past and present complain and onset of

the disease, duration of current illness and presence of consanguinity.

- Maternal characteristics as age, education, occupation……etc.

Part (2): This part included mothers' knowledge about care provided to nephrotic child such as objectives of care, causes of bed rest, causes of susceptibility of nephrotic child to infections, measures to protect the nephrotic child from infection and etc…….

The total grades of mothers' knowledge about care of nephrotic syndrome were 52 points. Each true answer or step of care was given 1 point and zero point if wrong or not done. The points were classified as the following:

- Prevention of infection took 6 points
- Care of infection took 4 points
- Providing special diet took 4 points
- Care of fever took 6 points
- Care of edema took 5 points
- Care of edematous skin took 6 points
- Calculating intake & output took 2 points
- Care of anorexia took 5 points
- Measurement of fluid intake and output took 2 points
- Urine analysis of albumin took 4 points
- Weighing the child took 1 points
- Compliance with prescribed medication took 1 point
- Compliance with follow up visits took 1 point.
- Provide emotional support took 5 points.

The total score of knowledge about care was classified as follows:

- Satisfactory ≥ 50%. equal 26 grads & more
- Unsatisfactory < 50%.equal less than 26

Tool (II): An observational checklist was developed by the researcher to evaluate mothers' practice provided to their nephrotic children during providing direct care regarding lowering elevated body temperature, measuring axillary temperature, urine analysis of albumin by boiling and weighing the child.

Scoring system of mothers' practice was developed by the researcher. Each step of the observational check list was given 1 point if done correctly and zero if not done or done incorrectly. The total practice scored 37 points and distributed as the following:

- Lowering elevated body temperature took 9 points
- Measuring axillary temperature took 8 points
- Urine analysis of albumin by boiling took 10 points
- Weighing the child took 10 points.

The total score of practice was classified as follows:

- Satisfactory ≥ 50%. equal 18.5&more
- Unsatisfactory < 50%.equal less than 18.5

Educational program:

The health educational program was developed by the researcher to educate mothers about care of their nephrotic children. The educational program aimed to improve mothers' practice to provide proper care to their nephrotic children. The program of this study was implemented in the form of five main sessions. The

sessions were implemented in the waiting area of the Pediatric Nephrology Outpatient Clinic and the Nephrology Unit after permission of the medical and nursing seniors. The length of sessions differed according to the content and mothers' responses. It was ranged from 45-60 minutes. Each session started by a summary of the previous session and objectives of the new one taking into account the use of Arabic language that suits the level of mothers' education. Mothers included in the study were divided into five groups; each group consisted of ten mothers. Motivation and reinforcement during session were used in order to enhance mothers' learning. Teaching methods were selected to suit teaching small group learners in the form of lectures, group discussion, demonstration and re-demonstration. Teaching materials were prepared as colored posters and handouts that covered theoretical and practical information. Evaluation of the educational program was done by post test. The same questionnaire and observation checklist used as pre test were used in entirety during the evaluation period. The educational program success was based on the improvement of mothers' practical skills.

Pilot study:

The aim of the pilot study was to test the practicability, and to estimate the time required to complete tools. It was conducted on five mothers before performing the actual study. No modifications were needed and all of these subjects were included in the main study sample.

Field work:

The structured interview questionnaire was developed after thorough review of literature. Each mother was individually interviewed to collect the necessary data (pre test). The researcher introduced her self and explained the purpose of the study briefly to each mother. The time consumed to answer each questionnaire sheet ranged from 20 to 30 minutes. The average number of mothers/ day was 6 mothers. Each mother was observed before the program, immediately and three months after implementing the educational intervention while she was caring for her child with the common health problems mentioned before. The health educational program was developed based on the results of interview and observational checklist. The educational program was implemented, then mothers were re-interviewed individually to evaluate their practice and observed while measuring axillary temperature, caring of elevated body temperature, analyzing urine and weighing the child (immediate assessment).Mothers' practices were reassessed again after 3 months of program implementation.

Administrative and ethical considerations:

An official permission was obtained by proper channels. The mothers were given a verbal description of the purpose of the study, the benefits, and they were informed about free participation or withdrawal right at any time without giving any reason. The mothers were informed that their participation in this study is voluntarily and their willingness to participate or not will not affect the child's care and treatment at hospital. Every mother was assured that the obtained information will be treated confidentially and used only for the purpose of the study.

Statistical analysis:

The collected data were coded and entered in a data base file using

the FoxPro for windows program. After complete entry, data were transferred to the SPSS version 19.0 program by which the analysis was conducted applying frequency tables with percentages and cross tabulations. Data is qualitative variables presented as number and percent. Wilcoxon Rank Test and Cochran test were used. P value was statistically significant at < 0.05 and highly statistically significant at < 0.01.

Results:

Table (1): shows characteristics of the studied children. Regarding children's age, it was found that 36% aged < 6 years, and 12% aged 12 years and more. The mean age of the studied children was 7.32±3.69 years.

As regard children's sex, 62% of the studied children were male, while female represented 38% of the sample. The majority of the sample was from rural areas (82%). Concerning the child's birth order, it was found that 38% were the first born child and only 18% of the studied children were the forth born children or more.

Concerning the scholastic status of the studied children, the results revealed that 60% were in basic education while 20% did not enter school.

Characteristics of the studied mothers were illustrated in **table (2)**. Considering mothers' age, 26% of mothers aged between 30 to less than 35 years old, and 12% belonged to the age group ranging 20 to less than 25 years old with a mean age 32.92±7.26 years.

Regarding education, 72% had basic education, 22% had secondary education and only 6% had completed their university education. As regards mothers' occupation, the majority of the studied children's mothers (92%) were house wives and only 8% were working. As regard to crowing index, 52% of families of studied children were living as 1-2 persons per room, and 48 % had 3 or more persons per room.

In relation to family monthly income, 52% of the studied children's families had insufficient income and 48% had sufficient income as reported by mothers.

Regarding family history of nephrotic syndrome, the majority of studied children (98%) had negative family history of the disease. Only one mother (2%) stated that her child had a positive family history of NS and also only one child was an outcome of a first degree consanguineous marriage.

Previous hospitalization of studied children was shown in **figure (1)**. Concerning causes of previous hospitalizations, 90% of studied children were hospitalized because of edema, 20% for oliguria, 32% for albuminurea and 18% for fever.

Table (3): illustrated the impact of health educational program on practice of the studied mothers regarding lowering elevated body temperature and measuring axillary temperature of their nephrotic children. As regards to studied mothers' measures to reduce the nephrotic child elevated body temperature, it was found that applying tipped compresses and administering antipyretics were done by 64% and 84% of the studied mothers before program implementation respectively. These percentages increased immediately after program implementation to 100% for each and 96% and 100% respectively after three months. On the other hand, maintaining child's rest, lightening child's clothes and covers, giving shower to the child and administer plenty of fluid were done

by 4%, 6%, 4% and 6% of mothers respectively before program implementation but immediately after implementation of the educational program these percentages increased to 50%, 78%, 50%, and 78% respectively then dropped to 8%, 38%, 8% and 4% respectively after three months. Statistical significant differences were found.

Concerning procedures of measuring axillary temperature that was done by nephrotic children' mothers, it was observed that 8% of mothers wash their hands before implementing the educational program and 26% immediately after program implementation decreasing to 10% after three months. Regarding cleaning the thermometer, 14% of mothers did it before program and increased to 92% immediately after, then dropped to 68% after three months. Shack thermometer less than 35^{o}c , dry under axilla, place thermometer under axilla for 5 minutes, remove and wipe the thermometer, take and record reading and wash thermometer were done by 6%, 4%, 54%, 2%,56% and 6% respectively before implementing the educational program, these results improved immediately after to 78%, 40%, 96%, 14%, 98%, and 78 % respectively. These results were statistically significant.

Impact of the health educational program on mothers' practice regarding urine analysis of albumin by boiling is shown in **table (4)** it was found that there was statistical significant improvement throughout the three phases of the educational program in relation to all steps of the procedure.

Table (5) portrayed impact of the health educational intervention on practice of studied mothers regarding weighing the child. Concerning balance the scale at zero point, it was observed that 10% of mothers did it before program implementation, this percentage increased to 98% and 86% immediately after program implementation and three months later. Taking the reading and record the reading were done by 8% and 18% of mothers respectively before implementing the program these results increased to 92% and 96% immediately after program implementation and 86% and 96% after three months.

It was clear from **table (6)** that only 14% of mothers provided satisfactory care regarding infection and fever before implementing the educational program. After program implementation the majority of mothers provided satisfactory care 92% and 66% respectively.

Before implementing the educational program 84% of mothers provided unsatisfactory care for diet, anorexia and urine analysis this result decreased immediately and three months after implementing the educational program to 20% and 52% and the results were statistically significant. Cochran test (40.421**).

Satisfactory practice score of mothers regarding compliance with treatment, follow up and provision of psychosocial care to their nephrotic children provided only by 4% of mothers before program implementation, the percentage increased to 30% immediately after program implementation and decreased to 14% after 3 months.

As shown from **table (7)** there were statistical significant differences Cochran test (57.235**) in relation to the total practice score of the nephrotic children's mothers throughout the three phases of the educational program, 70% of mothers had unsatisfactory practice score before program implementation while 96% and 88% who had satisfactory practice score for both immediately and after three

months from implementing the educational program respectively.

Discussion:

Nephrotic syndrome is primarily a disease of childhood. Its prevalence in pediatric age group is 15 times greater than in adults. [7] The corticosteroid responsive type, being most frequent, is characterized by remission and relapses requiring repeated and sometimes prolonged courses of corticosteroid therapy. [8] Soon after nephrotic syndrome is diagnosed, the child and family should be educated about the disease, its management, and its expected course. The family should participate in therapeutic decisions and should be encouraged to adhere to the medical regimen. [9]

Nurses working with children who have nephrotic syndrome have a significant supportive role in helping the family understand various therapies, preventing or managing expected side effects or toxicities, and observing for late effects of treatment. Education is a constant feature of the nursing role especially in terms of new treatments, clinical trials, and home care.[10]

Concerning the socio-demographic characteristics, the present study showed that more than one third of the studied children were less than 6 years. This finding goes in line with Price & Gwin, [11] who mentioned that NS most frequently occurs in children between the age of 3 and 7 years.

Regarding gender, Niaudet [12] mentioned that in young children, boys are more commonly affected than girls with ratio of 2:1. This is in agreement with the finding of the present study which revealed that more than half (62%) of nephrotic children were males Guha et al., [13] found in her study about Behavior profile of children with nephrotic syndrome that 66% of the studied children were males and 34% females and their mean age was 8.3 years (range 5-15 years).

As regards to residence areas of nephrotic children, the results of the present study revealed that the majority of the studied children were from rural areas. Perhaps this result is related to the fact that the data were collected from the university hospitals which is preferred by the majority of rural population because of its good reputation and low cost especially in providing care to children with chronic illness which require long term follow up. This finding is congruent with El–Soreety, [14] who found in her study about Mothers' compliance to predischarge plan: effect on health of their nephrotic children that more than two thirds of studied children were from rural areas.

It is clear from the results of the present study that nearly all mothers stated a negative family history to NS. This finding disagrees with Schnaper and Robson, [15] who mentioned that although the cause of primary NS is not understood, it is generally thought to be due to an abnormality of the glomerulus and it depends upon the ethnic background, which suggests a genetic tendency.

Infection protection can be met through avoiding overcrowding; people with contagious diseases, and washing hands. Regarding results of the present study, avoiding contact with infected person was the highest percentage reported by mothers as a method of prevention of infection before program, while keeping child warm and dry, providing well balanced diet, and maintaining child's cleanliness were the least mentioned measures. On the other hand, more than half of mothers did not take any measures to protect their nephrotic children from infection.[16] This result

goes in line with El-Aasar, [17] in her study about Maternal management of children with nephrotic syndrome and their quality of life who found that a slightly more than three quarters of mothers did not know how to protect their children from infection.

Regarding mothers' care of child with infection, it was observed that more than half of mothers reported that they seek the physician consultation as well as they administer the prescribed medication before program implementation compared to 6% only practice meticulous hand washing before program. This finding is in congruent with James and Ashwill, [18] who stated that practicing meticulous hand washing, keeping the child out of school until recovery and administrating the prescribed medication are used to treat infection.

The present study portrayed that most of mothers administered the prescribed antipyretics and applied tipped compresses as measures to care for fever before program implementation. While other measures such as maintain child on bed rest, promote good ventilation, light child's clothes and covers as well as assess child's temperature were frequently done by most of mothers after program. This finding support the hypothesis that educational program related to health problems impact knowledge and care.

Throughout the three phases of implementing the educational program the majority of mothers used the forehead as an appropriate site for applying tipped compresses. This result may be related to that the forehead is considered as a popular site of tipped compresses. But immediately after implementing the program and after three months, mothers used compresses on neck sides, under axilla and on thighs as well as under knees.

When the studied mothers were observed during measurement the body temperature of their nephrotic children, most of them used the axillary method throughout the three phases of the program. This may be because the majority of nephrotic children were hospitalized where the hospital policy recommends the axillary method to decrease the chance of infection.

Administration of the prescribed antipyretics and applying cold compresses were the most common measures of care done by mothers in case of fever before implementing the program. This may be related to mothers' cultural background that fever is relieved by only these two measures. Regarding mother's practice concerning measuring axillary temperature, the study found that before program implementation highest percentages of mothers placed the thermometer under the child's axilla for 5 minutes as well as took the reading of the thermometer. While other steps of the procedure took the least percentages. Immediately and three months after implementing the program most of these steps improved; which reflects the positive effect of the educational program regarding this procedure.

The present study showed significant improvement in mothers' care after implementing the educational program regarding care of anorexic child, as before program most of mothers did nothing to deal with anorexia. Measures such as offering attractive food, encouraging child to eat in group and providing favorite food improved immediately after program implementation. This result is supported by Schulte et al, [19] who reported that the nephrotic patient's appetite is generally poor. Serving favorite small quantities of food

attractively arranged in brightly colored dishes, nutritious and sitting face to face with the child should be done whenever possible.

Regarding mothers' practice of urine analysis, more than two thirds of them performed it before program implementation and almost half of them analyze it on a daily basis. This result agreed with Lane et al, [9] who reported that 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.

A major nursing intervention for a child with nephrotic syndrome is related to edema. It is important to assess edema by weighing the child daily, accurately recording intake and out put, and measuring abdominal girth or extremity size. It was revealed from the present study that three quarters of mothers did not apply any measures to their nephrotic children as a special care of edema before program, while the smallest percentage of them administered the prescribed drug to the child. This result may be that mothers from their point of view considered that this is not their responsibility but it is the doctor's responsibility. [20]

Regarding care of edematous skin, it was found that the majority of mothers did not do any thing to their children's edematous skin before program. This finding is in the contrary with Ball and Bindler, [21] who mentioned that the nephrotic child's skin is stretched with edema and becomes thin and fragile and need meticulous care as performing repeated skin assessment, turning the child frequently, and keeping the skin clean and dry to help prevent skin breakdown and potential infection. After implementing the program, mothers provided daily bath, frequent skin massage, observed the child's skin for any break down and encouraged child's movement. There were statistically significant differences between effectiveness of measures before and after educational program.

All of mothers except one reported that they complied with the prescribed treatment plan throughout the three phases of the program. As well as all of them except one stated that they comply with follow up visits before program and all of mothers reported compliance with follow up visits immediately after and three months later. This is in agreement with El-Aasar, [17] who found that two thirds of mothers regularly comply with follow up visits of their children which is supported by Bregman et al., [22] who reported that children with nephrotic syndrome usually require follow up for monthly analysis with a doctor and take treatment. Osborn et al., [2] added that the management of nephrotic syndrome starts with education of the family regarding the chronic and remitting nature of the disease, the need for compliance with medicine. This may be due to the stress of physician's instructions on the importance of compliance with medication regimen and follow up visits on the cure of their children.

As regard to the provision of psychosocial support to the nephrotic child, most of mothers did nothing to their nephrotic children before program implementation compared to nearly one fourth of them immediately and after three months of implementing the program encourage their children to participate in activities within his capabilities and encourage social relation done by minority of mothers before program this result

increased in both immediately and after three months. Ball and Bindler, [21] reported that parents and children often need support to cope with the chronic disease through assisting parents to promote the nephrotic child's independence by allowing the child to select the daily activity schedule. This gives the child some sense of control.

In relation to mother's practice regarding urine analysis of albumin by boiling, results of the current study showed that there were statistically significant differences between before implementing the program and immediately after program implementation and slightly decreased after three months. This reflected that the mothers' practice did not change significantly between immediately and after three months this may be because of urine analysis of albumin is considered the most important aspect of home care that is stressed by physicians as a responsibility of mothers, thus they need to be competent in performing this procedure in order to assess the child's health status.

Conclusion and recommendations:

Based on the findings of the current study, it is concluded that there were deficits in practice of nephrotic children's mothers regarding care of nephrotic children before implementing the educational program. However, post program, educational testing indicated a significant improvement in levels of practice of mothers.

In the light of the findings of the current study, the following recommendations are suggested:

- Continuous educational programs for mothers of nephrotic syndrome children attending the pediatric nephrology unit and the nephrology clinic to provide them with essential knowledge about the disease and its management plan are mandatory.
- Continues counseling should be established on healthy dietary choices and nutritional follow-up at each visit.
- Children must be motivated to comply to their management plan through small gifts, cards….etc.
- Designing educational handout about NS and its management plan for children according to age and their parents in the unit is mandatory.
- Health professionals, especially nurses must take a role in educating mothers of nephrotic syndrome children about the disease and the importance of compliance to treatment plan.
- Standards of care for nephrotic syndrome in hospital and clinic are mandatory.
- Conduction of support groups for nephrotic children's mothers to cope with the illness of their children may be useful.

Table (1): Characteristics of the Studied Children

Characteristics	NO. (N=50)	%
Age in years		
▪ < 6 years	18	36.0
▪ 6 –	11	22.0
▪ 9 -	15	30.0
▪ 12 & more	6	12.0
mean± SD	7.32 ± 3.69	
Sex		
▪ Male	31	62.0
▪ Female	19	38.0
Residence		
▪ Urban	9	18.0
▪ Rural	41	82.0
Education		
▪ No school	10	20.0
▪ Nursery school	10	20.0
▪ Basic education	30	60.0
Birth Order		
▪ First	19	38.0
▪ 2-3	22	44.0
▪ ≥ 4	9	18.0

Table (2): Characteristics of Mothers of studied children

Characteristics	No.	%
Mother age: (years)		
▪ 20 -	6	12.0
▪ 25 -	11	22.0
▪ 30 -	13	26.0
▪ 35 -	10	20.0
▪ 40 & more	10	20.0
Mean ± sd	32.92±7.26	
Mother education		
▪ Basic education	36	72.0
▪ secondary	11	22.0
▪ university	3	6.0
Mother occupation		
▪ Working	4	8.0
▪ Not working	46	92.0
Crowding index		
▪ 1-2 persons/room	24	48.0
▪ 3 person or more / room	26	52.0
Family income		
▪ Sufficient	24	48.0
▪ Insufficient	26	52.0
Family history of n.s		
▪ positive	1	2.0
▪ negative	49	98.0
Consanguinity	**(n=1)**	
▪ first degree	1	2.0

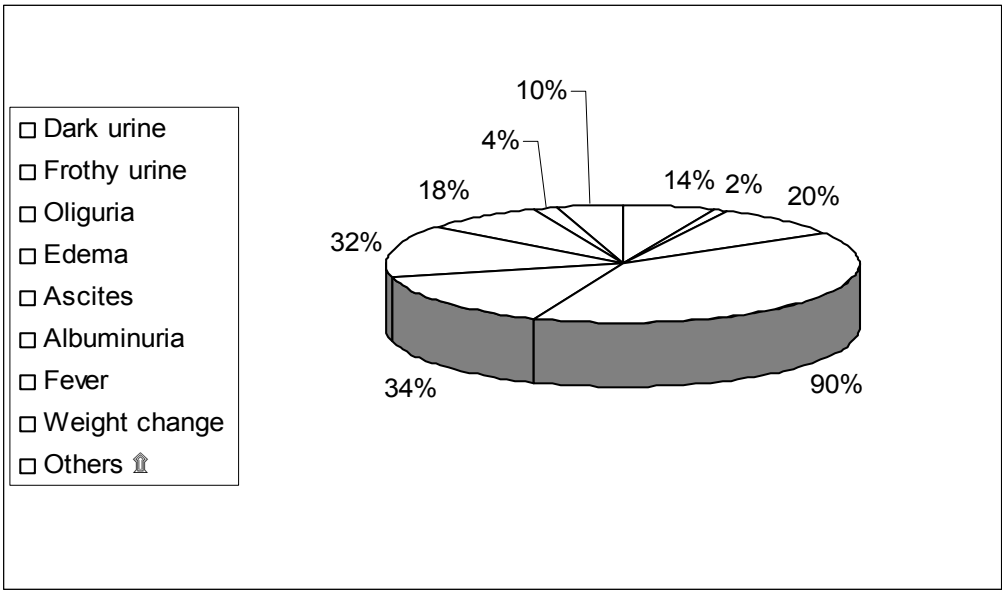

Figure (1): Causes of Previous hospitalization of studied children

Table (3): Impact of Health Educational Program on the Practice of Studied Mothers regarding lowering elevated body temperature and measuring axillary temperature

Practices	Before		Immed.after		3m after		Wilcoxon rank test			Cochran Test
	NO.	%	NO.	%	NO.	%	Z_1	Z_2	Z_3	
Lowering elevated body temperature										
1. Bed rest	2	4.0	25	50.0	4	8.0	4.796**	1.000	4.583*	40.583**
2. Cold compresses	32	64.0	50	100.0	48	96.0	4.243*	3.777*	1.414	30.737**
3. Good ventilation	3	6.0	38	76.0	21	42.0	4.379*	3.545*	2.000*	51.056**
4. Administer antipyretics	42	84.0	50	100.0	50	100.0	4.600*	4.315*	1.000	16.000**
5. Light child's clothes and covers	3	6.0	39	78.0	19	38.0	0.535	1.155	1.414	52.757**
6. Frequent assessment of temperature	1	2.0	7	14.0	1	2.0	4.796*	1.000	4.583*	9.000*
7. Give shower to the child	2	4.0	25	50.0	4	8.0	4.796*	1.000	4.583*	40.583**
8. Administer plenty of fluid	3	6.0	39	78.0	20	40.0	6.000*	3.900*	4.359*	52.595**
9. Avoid exposure to air drafts	7	14.0	29	58.0	16	32.0	4.690*	2.714*	3.606*	31.913**
Measuring axillary temperature										
1. Hand washing	4	8.0	13	26.0	5	10.0	2.714*	0.447	2.530*	11.231**
2. Clean thermometer	7	14.0	46	92.0	34	68.0	6.245*	4.700*	3.464*	57.000**
3. Shake thermometer less than 35^{o}c	3	6.0	39	78.0	20	40.0	6.000*	3.900*	4.359*	52.595**
4. Dry under axilla	2	4.0	20	40.0	5	10.0	4.243*	1.342	3.638*	27.900**
5. Place thermometer under axilla for 5 minutes	27	54.0	48	96.0	44	88.0	4.379*	3.545*	2.000*	29.840**
6. Remove and wipe thermometer	1	2.0	7	14.0	1	2.0	4.796*	1.000	4.583*	16.000**
7. Take the reading	28	56.0	49	98.0	48	96.0	4.600*	4.315*	1.000	39.000**
8. Wash thermometer	3	6.0	39	78.0	19	38.0	0.535	1.155	.414	52.757**

◙ *More than one answer*

- ***Z1****= before program & immediate after*
- ***Z2****= before program & after three months*
- ***Z3****= immediate after & after three months*

*****= statistically significant***

******= highly statistically significant***

Table (4): Impact of Health Educational Program on mothers' practice regarding urine analysis of albumin by boiling

Practices	Before		Immed. After		3m after		Wilcoxon rank test			Cochran test
	No.	%	No.	%	No.	%	Z_1	Z_2	Z_3	
1. Gather equipment	1	2.0	37	74.0	16	32.0	6.000*	3.638*	4.379*	51.632**
2. Explain procedure to the child	3	6.0	38	76.0	20	40.0	5.816*	3.710*	4.243*	49.676**
3. Obtain midstream morning urine sample	10	20.0	50	100.0	50	100.0	6.325*	6.325*	0.000	80.000**
4. Fill the clean test tube to 2/3	30	60.0	49	98.0	48	96.0	4.359*	4.025*	1.000	34.300**
5. Hold the tube from the lower part obliquely by the tube holder	1	2.0	43	86.0	20	40.0	6.481*	4.359*	4.796*	63.190**
6. Direct the top part of urine to flame till boiling	4	8.0	46	92.0	43	86.0	4.481*	6.091*	1.342	74.860**
7. Observe the result	21	42.0	48	96.0	45	90.0	5.196*	4.382*	1.732	43.800**
8. Record reading	9	18.0	48	96.0	48	96.0	6.245*	6.245	0.000	78.000**
9. Discard urine	30	60.0	49	98.0	48	96.0	4.359*	4.025*	1.000	34.300**
10. clean and keep equipments	11	22.0	46	92.0	43	86.0	5.916*	5.488*	1.342	61.027**

◙ *More than one answer*
Z1*= *before program & immediate after
Z2*= *before program & after three months
Z3*= *immediate after & after three months
= *statistically significant* *= *highly statistically significant***

Table (5): Impact of Health Educational Program on mothers' practice regarding weighing the child

Practices	Before		Immed. After		3m after		Wilcoxon rank test			Cochran test
	No.	%	No.	%	No.	%	Z_1	Z_2	Z_3	
1. hand washing	1	2.0	7	14.0	1	2.0	4.796*	1.000*	0.000	9.000*
2. explain procedure	2	4.0	27	54.0	13	26.0	5.000**	2.840*	3.74**	34.889**
3. balance the scale at zero point	5	10.0	46	98.0	43	86.0	6.403*	6.008*	1.732	74.619**
4. undress the child clothes and shoes if possible	0	0.0	0	0.0	0	0.0	0.000	0.000	0.000	0.000
5. bring child to the scale	27	54.0	50	100.0	50	100.0	4.491*	4.491*	0.000	46.00**
6. stand child on the scale	48	96.0	50	100.0	50	100.0	1.000	0.000	0.000	4.00
7. take the reading	4	8.0	46	92.0	43	86.0	6.481*	6.091*	1.342	74.860**
8. subtract the weight of clothes and shoes from total weight	0	0.0	0	0.0	0	0.0	0.000	0.000	0.000	0.000
9. record reading	4	8.0	46	92.0	43	86.0	6.481*	6.091*	1.342	74.860**
10. redress the child	0	0.0	0	0.0	0	0.0	0.000	0.000	0.000	0.000

◙ More than one answer
Z1= before program & immediate after
***Z2**= before program & after three months*
***Z3**= immediate after & after three months*
= statistically significant
****= highly statistically significa**nt

Table (6): Scores of Mothers' knowledge about care of Nephrotic children

Total practice score	Before		Immed. After		3m after		Cochran test
	no	%	No	%	No	%	
Care of infection and fever							
▪ satisfactory	7	14.0	46	92.0	33	66.0	
▪ unsatisfactory	43	86.0	4	8.0	17	34.0	57.707**
Diet, anorexia and urine analysis							
▪ satisfactory	8	16.0	40	80.0	24	48.0	40.421**
▪ unsatisfactory	42	84.0	10	20.0	26	52.0	
Compliance with ttt, follow up and psychosocial care							
▪ satisfactory	2	4.0	15	30.0	7	14.0	16.125**
▪ unsatisfactory	48	96.0	35	70.0	43	86.0	

****= statistically highly significant***

Table (7): Impact of the health educational Program on Total Practice Score of Studied Children's Mothers

Characteristics	Before		Immed. After		3m after		Cochran test
	No.	%	No.	%	No.	%	
Practice							
▪ unsatisfactory	35	70.0	2	4.0	6	12.0	57.235**
▪ satisfactory	15	30.0	48	96.0	44	88.0	

**= *statistically highly significant*

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تأثير برنامج تثقيفي صحى للأمهات على مدى التحسن في رعايتهن لأطفالهن المصابين بالمتلازمة الكلوية

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مقدمة:
يعد مرض المتلازمة الكلوية من أهم الأمـراض التي تصيب الأطفال ويشكل النوع الغير معروف السبب نسبة ٩٥% من الإصابة ، وهذا المـرض أكثر شيوعا في الذكور عن الإناث وهو مـرض محدود ذاتيا وعادة مايستجيب للعلاج بالكورتيزون وكثيرا ما يتطلب العلاج تعـاون مـستمر بـين الأطباء المعالجين والممرضات مع أباء وأمهـات الأطفال المرضى.

الهدف:
تقييم تأثير البرنامج التثقيفي على مدى التحسن في ممارسات الأمهات تجاه العناية بأطفالهن المصابين بالمتلازمة الكلوية.

مكان الدراسة:
تم إجراء هذه الدراسة بوحـدة الكلـى للأطفـال وكذلك العيادة الخارجية لأمراض الكلى الخاصـة بالأطفال بمستشفيات جامعة الزقازيق

عينة البحث:
اشتملت الدراسة على ٥٠ أم لديهن أطفال مصابين بمرض المتلازمة الكلوية ممن يـرافقن أطفـالهن ووافقن على المشاركة في الدراسة.

أدوات جمع البيانات:
تم استخدام أداتين لتجميع المعلومـات المطلوبـة وهما استمارة مقابلة شخصية لتجميـع البيانـات الديموجرافية عـن الأطفـال وأمهـاتهم وقائمـة ملاحظة لتقييم ممارسات الأمهات عـن رعايـة أطفالهن المصابين بالمتلازمة الكلوية.

النتائج:
أظهرت النتائج تأثير ملحوظ للبرنامج التعليمي في المرحلة الثانية والثالثة مقارنة بالمرحلة الأولـى حيث كان هناك فروق ذات دلالة إحصائية فيمـا يتعلق بالدرجات الكلية لممارسات الأمهات بـين الثلاث مراحل للبرنامج.

التوصيات:
تم اقتراح التوصيات الآتية:
ضرورة استمرار البـرامج التثقيفيـة لأمهـات الأطفال المصابين بالمتلازمـة الكلويـة اللاتـي يحضرن لوحدة أمراض الكلى الخاص بالأطفـال وكـذلك عيـادة الخارجيـة للكلـى لإمـدادهن بالمعلومات الضرورية عن المرض وكيفية رعاية الطفل المريض.