

Quality of Life among Children Suffering from Chronic Kidney Disease

Enjy Nessim Welliam, Seham Guirgus Ragheb, Ahmed Hussien Hassan , Rasmia Abd Elsttar Ali

Community Health Nursing Department, Faculty of Nursing Ain Shams University.

Abstract

Aim of the study: was to assess the quality of life among children suffering from chronic kidney disease. **Research design:** A descriptive design was used in this study. **Setting:** This study was conducted in the pediatric nephrology clinic, and the pediatric conservative nephrology clinic of the pediatric dialysis unit at Ain Shams University Children Hospital. **Sampling:** A Purposive sample, 164 children with their mothers. The criteria of sample: - the inclusion criteria included all available children with age 4-12 years old, both gender and their mothers. **Tools of data collection:** The first tool:- A questionnaire tool included the following Socio-demographic data of children, Socio-demographic data of mothers and fathers, environmental assessment for children living in. Assessment of mother's knowledge about CKD, and assessment of mother's practice related to children health needs and problem related to CKD by mother's role towards the needs and problem. The second tool: - Quality of life inventory scale was constructed to assess level of quality of life for children with chronic kidney disease. The third tool: Children medical record to assess health status of children. **Results:** As regards characteristics of the studied children it was found that 41.5% of the studied children were in age from 4<6 year, and 59.8% of the studied children were males, and that 68.9% of the studied sample had a positive level of physical domain of quality of life, that there was a highly statistical significant relation ($p<0.001$) between total knowledge and total QOL. **Conclusion:** - In conclusion the finding of this study revealed that 41.5% of the studied t of children age was ranged from 4<6years, Indeed less than half of mothers had unsatisfactory total knowledge, and uncorrected total practice. Most of the children were low weight, and the majority were suffering from loss of appetite. There was statistical significant relation between mothers' age, educational level, and their total practice. Represent that there was a highly statistical significant relation ($P<0.001$) between total knowledge and total QOL. And clarifies that was highly statistical significant relation between total knowledge and total practice. **Recommendations:** Educational training programs to children with CKD and their mother to update their knowledge and practice. Effort should be made to reduce the CKD complications among children through adopting a national strategies and plans of CKD prevention, care and control.

Key words: Quality of life, Chronic kidney disease, Mother's Knowledge, CHNG Role.

Introduction

Chronic kidney disease (CKD), also known as chronic renal disease (CRD), is a progressive

loss in renal function over a period of months or years. The symptoms of worsening kidney function are non-specific, and might include feeling generally unwell and experiencing appetite reduce (*National Kidney Foundation, 2013*).

The complication that should be anticipated in children with chronic kidney disease (CKD), including stage I CKD, on overall complication rate of 70% hypertension, 37% anemia, 17% metabolic bone disease, and 12% growth failure has been observed. The frequency and severity of these complications of CKD increase as the stages of CKD increase (*Longo et al., 2012*).

Quality of life is defined as a subjective multidimensional experience that involves a summary and evolution of the positive and negative attributes that characterize one's life. It is a dynamic construct affected by one's ability to adopt discrepancies between what is expected and what is experienced (*Zurko, 2012*).

Health related quality of life is a multidimensional construct referring to patient's perceptions of the impact of disease and treatment on their physical, psychological, social, functional and well-being (*Tapia, 2013*).

(CKD) is an important health problem for adult as well as pediatric and adolescent population. A part from its life threatening aspect, because of its impact, on quality of life of the patient investigation of the changes occurring in QOL has gained in importance. Today, opinions are suggesting that frequently using conventional concepts such as morbidity, mortality, and life expectancy for the measurement of public health are not sufficient to assess the state of health and will being are, going importance (*National Kidney Foundation, 2015*).

(CKD) burdens the children biologically, socially and psychologically. It affects the children's quality of life. Health related quality of life (HRQOL) is a sub-domain of QOL and can be defined as the subjective perception of how health-related factors impact the well-being and life satisfaction. It is increasingly recognized as an important outcome of the CKD treatment. This applies not only to the children's current life (*Kull et al., 2013*).

Community health nurses may specialize in areas such as home care, care management, clinical, school, or corporate nursing, or pharmaceutical scales. Nurses who choose traditional public health or home care should have a broad understanding of health issues and be comfortable with autonomy, change, and uncertainty. Nurses entering this specialty must

highlight not only their clinical skills, but also their critical thinking, advocacy, and analytic abilities (*Williams et al., 2014*).

The incidence of chronic kidney disease in United States is estimated to be 11% (19.2 million) clinical practice guidelines for management of ESK organized kidney dysfunction in five stages (*Urden et al., 2010*).

Total children attended in the pediatric nephrology clinic at Ain Shams University Children Hospital and the pediatric conservative nephrology clinic of the pediatric dialysis unit at Ain Shams University Children Hospital in 2014 was 2397 children. They were divided into 2047 children attending pediatric nephrology clinic. And 350 children attended in conservative pediatric nephrology (CKD) clinic (*Pediatric Hospital Statistical Office, 2014*).

Significance of the study:-

Chronic kidney disease (CKD) is a worldwide public health problem with an increasing of incidence and prevalence, poor outcomes, and high cost. Outcomes of CKD include not only kidney failure but also complications of decreased kidney function and cardiovascular disease (*American College of Physicians, 2015*).

Children with chronic renal disease (CKD) require strict dietary and lifestyle modifications, and frequent monitoring by a medical team. Their associated cardiovascular and physical complication, neuro-developmental disorders and psychosocial problem may all affect quality of life (*European Renal Association-European Dialysis and Transplant Assoc, 2015*).

Aims of this study:

The aim of the study is to assess the quality of life among children suffering from chronic kidney disease through:-

- Recognizing their mothers' knowledge about CKD.
- Assessing their mothers' practices towards children's health needs.

Research Questions:-

This study is based on answering the following questions:

- Is there a relation between mothers' socio-demographic characteristics and their knowledge and practices about CKD?
- Is there a relation between mothers' knowledge, practices and children's QOL?
- Is there a relation between mothers' knowledge and their practices?

Subject and methods:

Research Design: A Descriptive research design was selected to fulfill the aim of the study and answer the research questions.

Setting of the Study: This study was conducted in the pediatric nephrology clinic of at Ain Shams University Children Hospital. And the pediatric conservative Nephrology clinic of the pediatric dialysis unit at Ain Shams University Children Hospital. Ain Shams University Children Hospital is one of the largest hospitals in Egypt in pediatrics and it serves a large number of children who are suffering from kidney disease. It has pediatric nephrology (CKD) clinic.

Subject: - The subjects of the present study included 164 children with chronic kidney diseases. Total children attended in the pediatric nephrology clinic of Ain Shams University Children Hospital and pediatric conservative nephrology clinic of the pediatric dialysis unit at Ain Shams University Children Hospital in 2014 were 2397 children. They were divided into 2047 children attending pediatric nephrology clinic and 350 children attending conservative pediatric. The sample size represents about 10 % which attended with their mothers at outpatient clinic in 2014. The criteria of the sample: - It is divided into inclusion and exclusion criteria, the inclusion criteria included all available children with age 4-12 years old, both gender and their mothers. In this study the exclusion criteria include all children with other chronic illness or suffering from physical and mental disabilities.

Tools of data collection: The first tool: - A questionnaire tool included the following Socio-demographic data of children, Socio-demographic data of mothers and fathers, environmental assessment for children living in, assessment of mother's knowledge about CKD, and assessment of mother's practice related to children health needs and problem related to CKD by mothers' role towards the needs and problems.

Scoring system:-

- A scoring system for each of the knowledge items a correct response was scored "1", and incorrect "zero". For each area of knowledge, was considered satisfactory if the percent score was 50% or more and unsatisfactory if less than 50%.
- A scoring system for each of practice items done correctly was scored "1", and not done "zero". For each area of practice, was considered done correctly if the percent score was 60% or more and not done if less than 60%.

The second tool: - Quality of life inventory scale was constructed to assess level of quality of life for children with chronic kidney disease (*Grant et al., 2003*).

Scoring system:-

Scoring were ranged from (0-2) with "zero" representing never, with (1) representing sometimes, with (2) representing always. The scores for each of the items summed up and the total divided by the number of the items, giving a mean score for the part, these scores were converted into a percent score, means and standard deviation were computed.

The third tool: Children medical record to assess health status of children.

*Pilot study:-

The pilot study was conducted on 10% of children and their mothers to test the feasibility of the tools and the time consumed for filling in the questionnaire and also to test the language clarity of the tools data obtained from the pilot study were analyzed and accordingly the necessary

modifications were done. The number of the pilot study was excluded from the study sample. The completion of each sheet took about 45 minutes.

*Field work:-

An official letter was submitted to the director of pediatric hospital at Ain Shams University the actual field work started data collection from the beginning of November of 2014 and ended by May 2015. It was done during the morning shift, one day per week in pediatric nephrology clinic and five days per week in conservative pediatric nephrology (CKD) clinic from 9.00 am to 1.00 pm. The Subject which met the inclusion criteria were identified through reading medical record of the children and asking mothers accompanying with the children. Each mother was interviewed individually in the outpatient clinics, the investigator started with introducing herself and explaining the aim of the study for the selected mother subject , assured that data collected will be confidential and would be only used to achieve the purpose of the study. The questionnaires were read, explained, and the choices were recorded by the investigator after agreement of the mothers, they were allowed to express their feelings. Mother's illiteracy need more help to complete the questionnaire. Large number were need to explain every item to respond it and it took a lot of time for every case to end the questionnaire, so I took many months to complete all number of cases = [164] cases.

Ethical consideration:-

The participant has a right for the study subsets which were secured and all the gathered data will be confidential and will be used for study purpose only.

Statistical design:-

Data collected were analyzed and results were presented in tables using frequency distribution tables.

Tests of significance were used to find out associations between study variables. The percentages were used in all tables. The statistical significance of observed differences was assessed.

Chi – square (X^2), p value is used mean \pm standard deviation ($X \pm SD$) as a test of

significance of results, not significant $P > 0.05$, significant $P < 0.05$ and highly significant $P < 0.001$.

Result:

Table (1):- shows that 59.8 % of children were male ,the age of 41.5 % of them was ranged from 4<6years , and 56.7 % of the studied children were at first and second primary school, concerning child ranking 47.6% of the studied children were the first children in the family

Table (2) :- states that 49.4% of mothers' age was ranged from 30< 40 years, 55.4% of fathers' age was ranged from 40<60 years, 45.2% of mothers were illiterate ,30.5% from fathers received secondary education, 90.9% of mothers were housewife and 90.9% of fathers were working.

Table (3):- Reflects duration of the disease, 37.2% of the studied children the appearance age of the illness 3 years and more, 43.9% of the children were admitted in hospital, from 1 to 3 times, 90.2% of them; the reasons for admission in the hospital were related to the disease and the regular check up and follow up were 87.8% of them.

Fig (1):-show that 51.20% of mothers had satisfactory level about total knowledge and 48.80% of them had unsatisfactory level about total knowledge.

Fig (2): Illustrate that 90.2% of mothers took their information from doctors about CKD.

Table (4) :- Illustrates 83.5% of mothers' practices correctly on elevating temperature above 38.5C, 49.9% were correctly done and noticed a swelling in the leg and foot ,and prevent the high blood pressure, 64.6% of mother stated practices to prevent anemia. And 46.3% reported correctly the role to protect the child from infectious disease.

Fig (3):- Illustrates that 68.9% of the studied sample have a positive level of physically domain of quality of life. 40.0% of them have a positive level of social domain of quality of life and 47.6% of children have a positive level of spiritual domain of quality of life.

Fig (4): Shows that there was a highly statistical significant relation between child ranking and total knowledge, but there was no significant statistical difference between children gender and their total knowledge.

Table (5): Illustrates that there was a highly statistical significant relation between mothers' age and their total knowledge also there was a highly statistical significant relation between mothers' educational level and their total knowledge.

Table (6): Reveals that there was a highly statistical significant relation between child rank among brothers and total practice, and there was non - significant relation between children gender and there total practice.

Table (7): Clarifies that there was a statistical significant relation between mothers' age and their total practice it also shows that there was a highly relation between mothers' educational level and their total practice.

Fig (5): Represents that there was a highly statistical significant relation ($P < 0.001$) between total knowledge and total QOL.

Fig (6): Clarifies that there was a highly statistical significant relation between total knowledge and total practice.

Table (8): Clarifies that was highly statistical significant relation between total knowledge and total practice.

Table (1):- Distribution of the children according to their socio-demographic data. N =164

Items	N=164	100%
Gender:-		
-Male	98	59.8
-Female	66	40.2
Age in years :		
4-	68	41.5
6-	20	12.2
8-	30	18.3
10-12	46	28.0
Level of education by school year :		
-No going to school		
- 1 st and 2 ^{ed}	5	3.0
- 3 rd and 4 th	93	56.7
-5 th and 6 th	36	22.0
	30	18.3
Ranking		
-First	78	47.6
-Second	36	22.0
-Third	25	15.2
-Last	25	15.2

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Table (2):- Distribution of the studied sample according to their parent socio-demographic data. N= 164

Items	N=164	100%
Mother's age by year		
20 -	63	38.4
30 -	81	49.4
40-60	20	12.2
Father's age by year		
20 -	6	3.7
30 -	67	40.9
40 -60	91	55.4
Marital status		
- Married	158	96.3
- Divorced	6	3.7
Educational level (mother)		
- Illiterate	74	45.2
- Read and write	10	6.1
- Basic education	15	9.1
- Secondary education	55	33.5
- University degree	10	6.1
Educational level (father)		
-Illiterate	43	26.2
- Read and write	31	19.0
-Basic education	25	15.2
-Secondary education	50	30.5
-University degree	15	9.1
Work Mother		
- Working	15	9.1
-Not working	149	90.9
Work father		
-Working	149	90.9
-Not working	15	9.1
Type of father's work		
- Worker	37	24.8
- Government employees	30	20.1
- Livelihood	25	16.8
- Freelancers	57	38.3

Table (3):- Distribution of the studied children was according to their medical history.

Items	N=164	100%
The duration of the CKD		
-From 6 month < 1 year	57	34.8
-From 1 year < 2 years	26	15.9
-From 2 years < 3 years	20	12.1
- 3 years and more.	61	37.2
Frequency of The child's admission in the hospital		
-1 to 3 times		
-4 to 6 times	72	43.9
-7 to 10 times	27	16.5
-11 to 25 times	35	21.3
	30	18.3
Reasons for admission in the hospital		
-Related to the disease		
-Unrelated to the disease	148	90.2
-Related to the disease complication	6	3.7
	10	6.1
Regular check up	144	87.8
Regular Follow-up	144	87.8
Any family member suffering from CKD		
- NO		
- Yes	127	77.4
	37	22.6
If yes, the relation to the child N=37		
- First degree		
- Second degree	29	78.4
	8	21.6

Fig (1): Distribution of the children's mother according to satisfactory level of knowledge about CKD.

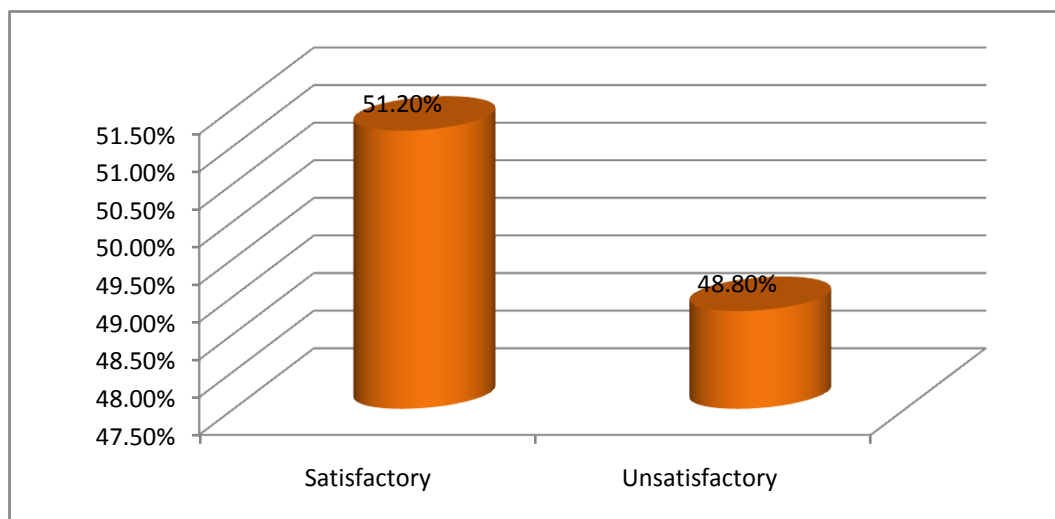


Fig (2): distribution of children's parent related to Source of Information:

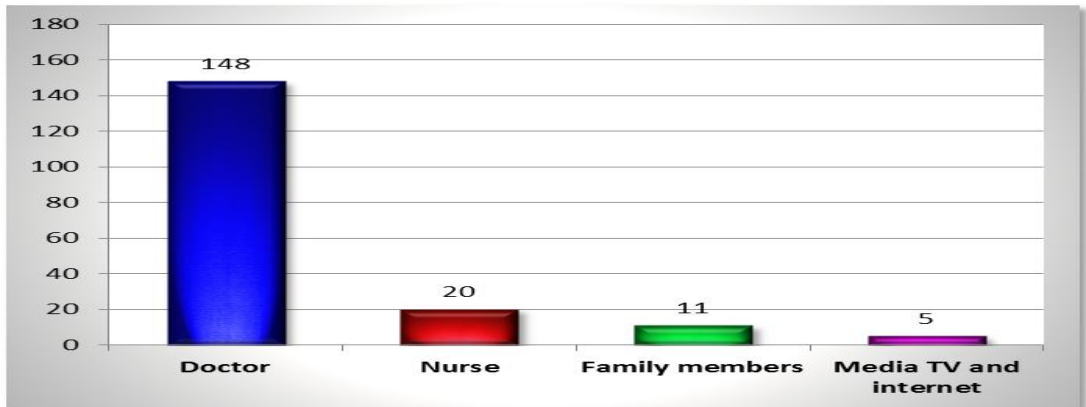


Table (4): Distribution of the mothers related to correctly done according to their child care.

Items	N=164	100%
Role to keep healthy food system for the child	80	48.8
Car for child about elevate temperature above 38.5	137	83.5
Car for child about notice swelling in the leg and foot	81	49.9
Role to prevent the high blood pressure for their children	81	49.9
Role to prevent anemia for child	106	64.6
Role to protect the child from infectious diseases	76	46.3
Role for prevention of delayed development of the child	91	55.5
Role to avoid dialysis stage	107	65.2
Role for The suitable type of sport to the child	57	34.8
Total practice		
-Correct	85	51.8
-Uncorrected	79	48.2

Fig (3): Distribution of children according to their positive level of quality of life.

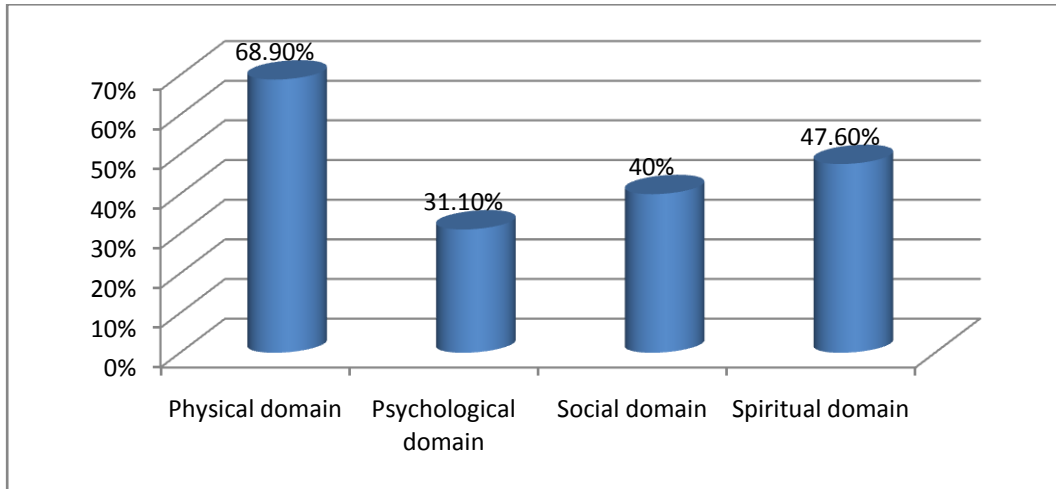
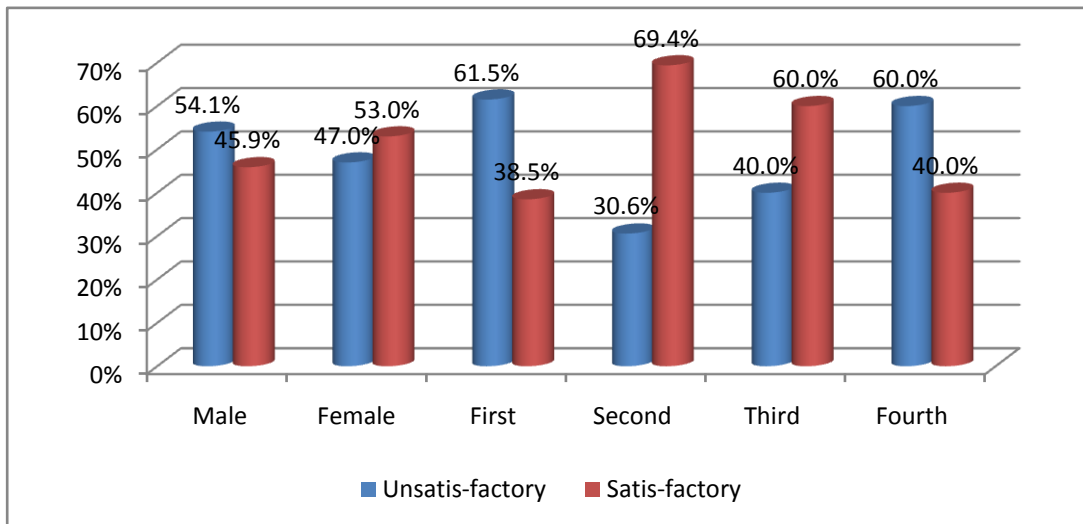


Fig (4): Relation of total knowledge and socio-demographic data for child (Gender and Child ranking).



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Table (5): Relation between total mother's knowledge and their socio-demographic data.

Items	Total knowledge		Chi-squared	Probability	Sig.	
	Unsatisfactory	Satisfactory				
Mother age						
From 20<30yrs	43 68.3%	20 31.7%	63 100.0%	12.76	0.00169	P<0.01 highly significant
From 30<40yrs	31 38.3%	50 61.7%	81 100.0%			
40 or above	10 50.0%	10 50.0%	20 100.0%			
Total	84 51.2%	80 48.8%	164 100.0%			
Educational level of mother						
Illiterate	54 73.0%	20 27.0%	74 100.0%	41	0.00000	P<0.001 highly significant
Can read and write	5 50.0	5 50.0%	10 100.0%			
Basic education	0 0%	15 100.0%	15 100.0%			
Secondary school	25 45.5%	30 54.5%	55 100.0%			
University degree	0 0%	10 100.0%	10 100.0%			
Total	84 51.2%	80 48.8%	164 100.0%			

Table (6): Relation between total mother's practice and socio-demographic data for child.

Items	Total practice		Total	Chi-squared	Probability	Sig.
	Not done	Done				
Gender						
Male	43 43.9%	55 56.1%	98 100.0%	1.8	0.18000	P>0.05 non significant
Female	36 54.5%	30 45.5%	66 100.0%			
Total	79 48.2%	85 51.8%	164 100.0%			
Child rank among brothers						
First	43 55.1%	35 44.9%	78 100.0%	24.1	0.00002	P>0.01 highly significant
Second	11 30.6%	25 69.4%	36 100.0%			
Third	5 20.0%	20 80.0%	25 100.0%			
Fourth	20 80.0%	5 20.0%	25 100.0%			
Total	79 48.2%	85 51.8%	164 100.0%			

Table (7): Relation between total practice and socio-demographic data for mother.

Items	Total practice		Total	Chi-squared	Probability	Sig.
	Not done	Done				
Mother age						
From 20 to 30yrs	38 60.3%	25 34.7%	63 100.0	8.47	0.01444	P<0.05 significant
From 30 to 40 yrs	36 44.4%	45 55.6%	81 100.0%			
40 or above	5 25.0%	15 75.0%	20 100.0%			
Total	79 48.2%	85 51.8%	164 100.0%			
Educational level of mother						
Illiterate	64 86.5%	10 13.5%	74 100.0%	111.1	0.00000	P<0.001 highly significant
Can read & write	10 100.0%	0 0%	10 100.0%			
Basic education	0 0%	15 100.0%	15 100.0%			
Secondary school	5 9.1%	50 90.9%	55 100.0%			
University degree	0 0%	10 100.0%	10 100.0%			
Total	74 48.2%	85 51.8%	164 100.0%			

Fig (5): Relation between total knowledge and total QOL.

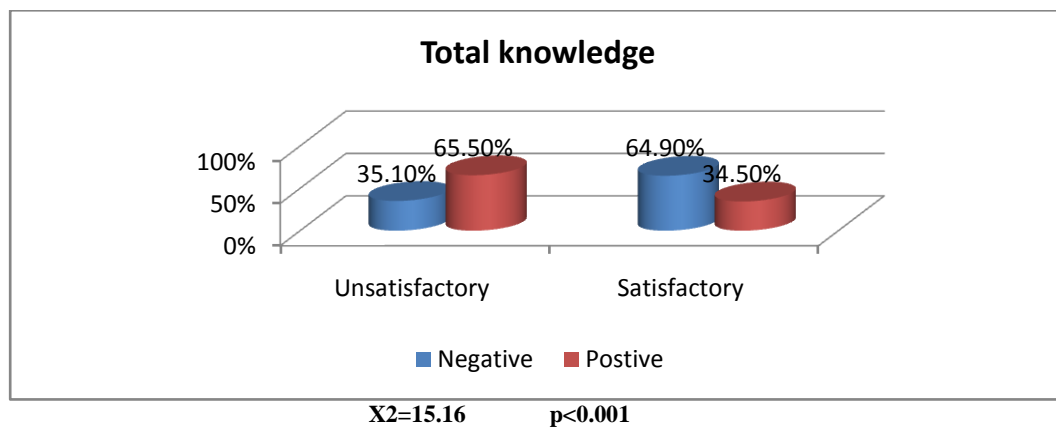


Fig (6): Relation between total practice and total QOL.

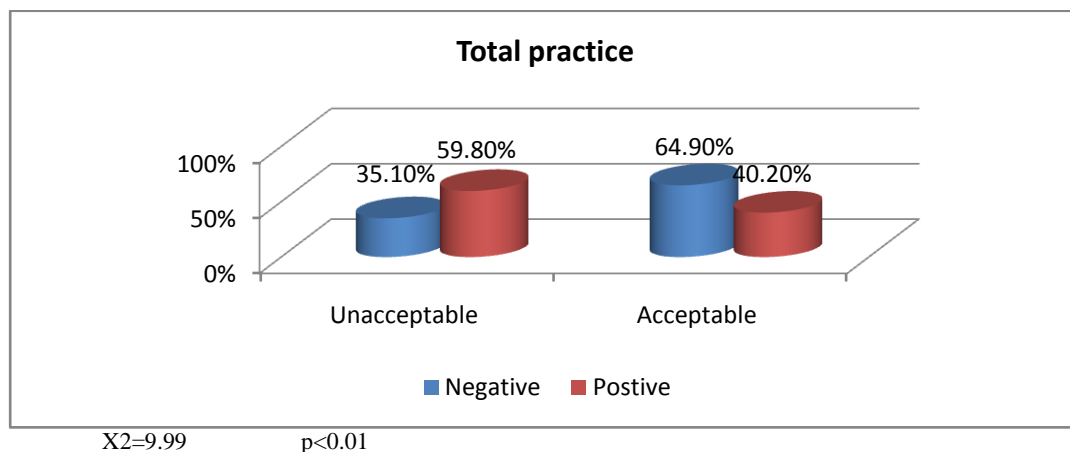


Table (8): Relation between total knowledge and total practice.

Items	Total practice		Total	Chi-squared	Probability	
	Not done	Done				
Total knowledge						
Unsatisfactory	46 81.0%	20 23.5%	84 51.2%	54.1	0.00000	P< 0.001 highly significant
Satisfactory	15 19.0%	65 76.5%	80 48.8%			
Total	79 100.0%	85 100.0%	164 100.0%			

Discussion:

Chronic Kidney Disease and its consequences are public health concern. The aim of CKD management is not only the improvement or substitution of kidney dysfunction together with eliminating corresponding general health disorders, but also providing the patients suffering from the disease a suitable quality of life. CKD creates a difficult situation, not only for a CKD child but also for the family, which is very important for the child. The family creates the first basics and sometimes the only social environment for the young growing patients (*Kilis et al., 2014*).

The children with CKD require strict dietary and lifestyle modifications, and frequent monitoring by a medical team. Their associated cardiovascular and physical complications, neurodevelopmental disorders and psychosocial problems may all affect QOL (*Marie et al., 2013*).

The finding of the present showed that more than half of children were males, this disagreed with *Wong et al. (2009)* who studied infant and children in china found that more than half of studied children were females.

As regards the children of the study sample result revealed that the ranges of age of less than half of them were from 4:6 years. This disagreed with *Abdel Wanise (2014)* who studied children in pediatric department in children hospital affiliated to Ain Shams University Hospital, showed that half of the studied children were in the age of 10-12 years.

Mothers of children suffering from CKD of this studied sample showed that less than half of mothers were illiterate. This result is disagreed with (*Kilis et al., (2014)* who studied children in Poland, that more than half of mother had high school or university education.

Mothers of children suffering from CKD of this sample state that majority of mothers were housewives this result agreed with *Morshidy, (2013)* who studied children in pediatric emergency, medical department at Ain Shams University and pediatric outpatient clinic at General Damanhur Hospital, who regarding their educational level the greatest number of mothers were illiterate and housewives, and *Kilis et al., (2014)* who mentioned that most mothers of ill children were not employed.

The results of this study revealed Mothers and fathers of children suffering from CKD of this studied sample, stated that socio-demographic of them were less than half of mothers age ranged from 30 - 40 years and more than half of fathers' age was ranged from 40-60 years , this result disagreed, with *Morshidy, (2013)* that regarding socio-demographic characteristics of children's caregivers less than half of mothers' age and more than two thirds of father's age were ranged between 35 to 45 years.

The present study showed majority of the studied mothers were married , this study agreed with *Mostafa, et al. (2008)* who studied children in heart clinic of the university children hospital El-Shatby in Alexandria, found more than 90% of the study sample were married.

Concerning number and reasons of hospital admission related to the children's CKD , the results reflect that, less than half of them were admitted from 1-3 times and the majority of them were admitted to manage their CKD. This disagreed with *Deacon et al. (2011)* who reported that, the majority of children were admitted to hospital, this might be due to that, poor compliance with disease management and care of their mothers can result in recurrent hospital admission and this is an accordance with *Marie et al., (2013)* who studied sick children from Toronto, Canada, mentioned their increased hospitalization time.

Children suffering from CKD of this studied sample results revealed that, more than three quarter of them regular checkup and follow up to assess patients for each stage of Chronic kidney disease. This result disagreed with *Li-Ching et al., (2014)* who studied patients in Taiwan, who found that, there was no longer-term follow up or continuity to assess patients for each stage of kidney disease.

As regards the studied result revealed that less than quarter of family member suffering from CKD, and more than three quarters of them were first degree to child's relation that may result of genetic factor due to the increase of the susceptibility of developing CKD. This supported by *Cleveland clinic Foundation (2015)*, mentioned it is particularly important if the child had a family history of CKD, diabetes, unsuccessfully treated hypertension, and illness that could affect the kidneys, as these increase the risk for developing kidney disease.

The finding of the present study revealed that more than third of the studied children were suffering from complication of CKD. This finding supported by *Wong et al. (2014)* who studied children and adolescents in Australia and mentioned that children are suffering from a multitude of physical, mental, and psychological complication.

As regards the mothers' knowledge about the disease of the studied sample results revealed, that less than one quarter of mothers had satisfactory knowledge about meaning and causes of CKD and more than one third knew the signs and symptoms, and determine complication of CKD, more than half of them able to determine their treatment of CKD, more than one third of them had satisfactory level about meaning of renal failure and more than quarter knew meaning of dialysis, this result disagreement with *Kilis et al., (2014)* mention that knowledge of mothers about their children's illness was definitely poor. From the researcher point of

view that the mothers studied depended on the doctors only to get the information about their children's disease and they didn't read about the disease.

The finding of the current study illustrate that most of the mothers took their information from doctors about CKD. Form the researcher's point of view that result to mother's trust in the doctor's opinions more than nurses or others. These results disagreed with *Li-Ching et al. (2014)* who studied patients in Taiwan mentioned that patients with CKD were provided by health knowledge by a physician, nutritionist, and educator, who gave nursing advice and diet education with regular monitoring of blood biochemistry values.

As regards the mothers' child of the studied sample results revealed that, less than half of mothers had correct done related to their role to keep healthy food for their children, this result is supported by *Li-ching et al. (2014)* who studied patients in Taiwan found that studies demonstrated the importance of good nutrition and health, lifestyle in maintaining renal function in CKD.

The finding of the present study illustrated that less than half of mother's had correct done related to their role to prevent the high blood pressure, this was supported by *Ignatiavicius & Workman. (2010)*, who teach the parents and patients to understand the relationship of blood pressure control to diet and drug therapy.

The present study show that more than half of mothers stated practices to prevent anemia, this result was supported by *Osborn et al. (2011)* who mentioned that Anemia is a problem in children with CKD because of limited iron content of low protein diets and decreased kidney production of erythropoietin. So he encouraged mothers and children that supplemental iron is needed too, it depends on the children serum calcium level and bone status.

The present study showed that less than half of the studied mothers reported correctly about the role to protect the children from infectious disease, this result disagreed with *Shaaban et al. (2003)* who reported that more than three quarters of studied mothers protect their child from contact with infected person and supported by *Ramont et al. (2012)* who reported that encouraging parents to be alert for signs of infection such as elevated temperature, cloudy, strong smelling urine, dysuria, changes in respiratory pattern, or productive cough and emphasize to the child and family the importance of good hand hygiene practices.

The present study showed that more than one third of mothers had correct done for the suitable type sport to the child this result disagreed with *Li-Ching (2014)* who mentioned that patient were having a low score in sports.

As regards the mother's child care results revealed that, more than half of mothers had correct done to avoid dialysis stage these results were supported by *Li-Ching (2014)* who found that CKD patient admitted that they could not enjoy food like a normal person, and unfortunately a degree of freedom was no longer theirs. Even so, they were willing to abide by the dietary restrictions in order to avoid the entrance of dialysis treatment.

Children suffering from CKD were having the lower score in psychological domain, social domain and spiritual domain. This result is supported by *Cristiane et al. (2010)* who studied children from Minas Gerais in France which results were statistically lower in all QOL Domain and *Marie et al., (2013)* who studied sick children from Toronto, Canada, mention that health related to QOL rate was lower by CKD than healthy children.

The present study cleared that less than half of studied children were having a

positive level of psychological domain of QOL this result agree with *Ghazavi et al. (2013)*, who studied children and their family from iron showing that the QOL score in psychological dimensions in these children was lower compared to that of healthy children.

The present study clarifies that there was a highly statistical significant relation between child ranking among brothers and total knowledge $P < 0.001$ but there was no statistical significant relation between children gender and there total knowledge $P > 0.05$ the finding disagreed with *Abd Elkreem (2015)* who found a studied patient in outpatient clinics at Ain Shams University Eldemerdash Hospital, that there is no statistical significant relation between gender and total knowledge.

The present study illustrates that there was a highly statistical significant relation between mothers age and their total knowledge $P < 0.01$ this is due to whenever mothers were older whenever the healthy awareness and knowledge increase for them, this agreed with *Abd El kreem (2015)* showing that there is a highly statistical significant relation between age and total knowledge.

The present study illustrates that there was a highly statistical significant relation between child rank among brothers and their total practice, and there was non-significant relation between children gender and total practice.

Statistical significant relations between mother's level of education and their level of knowledge and practice toward their children, these relations mean that there was a statistical relation between mothers' age and their total practice $P < 0.05$, it also shows that there was a highly relation between mother education at level and their total practice, and shows that there was non-statistical significant relation between

mothers' work and their total practice $P > 0.05$. From the researcher's point of view that related to whenever mother was older whenever the practice, experience and skills were more than young mothers. Mothers of low educational level were low practiced and lack of awareness about care of the disease this finding agreed with **Mohamed (2011)**, who studied children in outpatient clinic at psychiatric medicine center and the neurological pediatric outpatient clinic affiliated to Ain Shams University, that there were education had direct effect on mothers' knowledge and practice. This can be interpreted that highly educated mothers often have better opportunities to develop skills and knowledge.

The finding of the present study represented that there was a highly statistical significant relation $P < 0.001$ between total knowledge and total QOL. From the researcher point of view that result of healthy awareness and good knowledge of mother are due to more practices and experience for CKD of mothers, this finding disagreed with **Abdel Wanise (2014)**, who showed that, there is no statistical significant difference between total OOL of studied children and their total knowledge.

As regards the studied result revealed that there was a highly statistical significant between total practice and total OOL ($P < 0.01$) the increase awareness form mothers more than half and increase health awareness form the media. This result disagreed with **Gill et al. (2011)** who studied patient from Indian, that caregivers had a significant poor QOL and moderate to severe burned.

The present study cleared that there were highly statistically significant relation between total knowledge and total practice ($P < 0.001$) that the highly level of healthy awareness of the studied mothers, it was the important role in giving care for the children suffering from CKD.

Conclusion:

In conclusion the finding of this study revealed that 41.5% of children's age were ranged from 4-6years. Indeed less than half of mothers had unsatisfactory total knowledge, and uncorrected total practice. Most of the children were low weight, and the majorities were suffering from loss of appetite. There was statistical significant relation between mothers' age, educational level, and their total practice. Representing that there was a highly statistical significant relation ($P < 0.001$) between total knowledge and total QOL. And Clarifies that was highly statistical significant relation between total knowledge and total practice.

Recommendations:

In the light of the finding of the present study the following recommendations are suggested:

1. Emphasize the importance of early cases finding control and management through national screening and surveying programs targeting CKD children.
2. Continuous educational training programs to children with CKD and their mother to up-date their knowledge and practice.
3. Encourage the importance of regular follow-up and regular investigation of children with CKD to ensure proper CKD control and early detection of complication.
4. Regular assessment of factors affecting the quality of life of the chronic kidney. Children in the pediatric neurology and conservative Nephrology clinic of the pediatric dialysis unit at Ain Shams University children hospital and their mothers qualified staff nursing. And accordingly adopt the proper

intervention to empower positive quality of life. And raise their awareness regarding CKD.

5. Ensure the importance of community health nurses' role in teaching, supporting counseling and managing the chronic kidney children and their mothers to comply with results in better QOL.

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