

*Original Article***Self-care to prevent infections of the urinary tract in children***Parvin Taheri**, *Nayer Alizadeh***, *Heidar Ali Abedi******Abstract**

Background: Once it comes to infections, children are the weakest members of society and they gather together in nurseries and kindergartens as their first communities. In recent years, parents were more eager to send their children to nurseries. This research investigated self-care to prevent urinary tract infections in children.

Methods: This was a qualitative research using a contextual thematic analysis. Samples were selected from children with urinary tract infections who attended nurseries of Isfahan University of Medical Sciences along with their parents, teachers and the head of nurseries. Sampling was purposive and continued until data saturation which occurred with 10 participants including 7 mothers whose kids experienced urinary tract infections and 3 nurseries' heads and teachers. Data were collected in 2005 during appointments in nurseries by deep and semi-organized interviews. Each interview lasted between 30 to 50 minutes (average length was 40 minutes). Data were analyzed according to Straw-Bert model.

Results: Three main conceptions were derived from the experiences of participants on self-care to prevent urinary tract infections, including: diagnosis of symptoms, dangerous factors and effective diet for prevention; control the disease, medication, preventing effects and relapse into the disease by health care; additional interventions, diagnosis tests and follow-up.

Conclusion: According to the findings, the participants in this research experienced several factors that caused urinary tract infections. These factors were different based on their knowledge and the existence or non-existence of health care support. These results were supporting other studies on the subject.

Key words: Self care, urinary tract infection, children, contextual thematic analysis

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Children's health care as the weakest members of society is very important since the society's health is dependent on children's health. Today's children are tomorrow's men and it should be noticed that the children's health condition changes during their growth process.¹ The main group of curable and preventable diseases in human beings is those related to infections.² In spite of several decades of significant progress to cure and prevent them, infectious diseases are still one of the main causes of death and disability and still worsening the life condition for millions of people around the world.³ Urinary tract infections are the most common type of infection in the body after respiratory tract infections.⁴ In-

fants and little children with urinary tract infections are at more risk of kidney failure caused by the increasing infections compared to elder children.⁵ The prevalence of urinary infections is related to age and sex and girls regardless of their age are more vulnerable to it.⁶ Almost 50% of children under age of 5 have urinary tract infections, fever and also vesicoureteral reflex.⁷ Once it comes to infectious diseases, children are the most vulnerable members of society and while gathering in nurseries and kindergartens, they are at high risk of getting infectious.⁸ Self-care is a behavior to answer special needs, leads to keeping health and aims to protect body's structure and function.⁹ Levin says that self-care is a process to help human beings establish

*MSc, Department of Pediatric Nursing, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.

** MSc, Department of Pediatric Nursing, School of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran..

*** PhD, Associate Professor, Department of Health, School of Nursing and Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran.

.Correspondence to: Parvin Taheri MSc..

E-mail: taheri@nm.mui.ac.ir

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health in life and prevent diseases and diagnose and cure them through some activities.¹⁰ Some people face sickness, aging and disabilities and can't take care of themselves. Therefore, it is necessary that professional people help those who can't take care of themselves. Taking care of one's self as well as others' is what a nurse should do and it is a highly valuable contribution to society. It's the reason why the principles of nursing are based on these two activities.¹⁰ Children's nurses play a great role in teaching the nurseries' employees and parents, suitable self-care and personal health methods for children.¹¹ Nasiri says that self-care includes any activity conducted by parents, to protect and improve children's health and prevent, diagnose and cure their diseases.¹² In spite of the importance of children's health care which already mentioned, there is no study and education on children's self-care to prevent urinary tract infections. This research describes the nature of self-care to prevent urinary tract infections in children of nurseries administered by Isfahan University of Medical Sciences in 2005.

Methods

It is a qualitative study using a contextual thematic analysis. The subjects were selected from children with urinary tract infections who attended nurseries of Isfahan University of Medical Sciences along with their parents, teachers and the nurseries' heads. Sampling was purposive. The researcher obtained necessary permission from the School of Nursing and Midwifery, Isfahan University of Medical Sciences, and referred to university's administrated nurseries. In nurseries, the researcher was introduced to children, their parents and teachers and explained the research's goals to them and emphasized secrecy of data and interviews and got the subjects' permission to interview them. After considering criteria for entering the study and exempting from it, they were invited for interview and this process continued until data saturation which occurred with 10 participants. The entry criteria included having a child who attended nurseries and had urinary tract infections or having at least one child experienced

urinary tract infections for mothers, experiencing taking care of a child with urinary tract infections for teachers, being able to explain their experiences and willingness to participate in the study. Valid methods for collecting data included daily notes, the participants' observes and formal and informal interviews. Also, Straw-Bert and Carpenter say that free interview give the participants the opportunity to explain completely their experience of the phenomenon¹³. Data were collected by deep and semi-organized interviews in a private environment in nurseries, at parents' works or in the nurseries' personnel offices. The questions were open and the interviews were recorded with the permission of participants, then transcribed and its codes were extracted. All the questions were about self-care to prevent urinary tract infections and the experiences and thoughts of participants. The key questions included followings: what kind of health care experience did you have to prevent urinary tract infections and have you experimented urinary tract infections. These questions were approved by 10 supervising professors and if the answers were not complete, a new question with the same topic would be asked to complete the concept. The interviews were conducted from 2005.09.17 to 2005.11.10 during appointments. Each interview lasted 30 to 50 minutes (with average length of 40 minutes). The interviews continued until there was no new data to be added and the interviews became a repeat of previous data which happened after 10th participant. At this time, it was clear that almost every dimension of the problem was already discussed and the researcher decided that the data were sufficient for describing and explaining the research question and stopped further data collection. Data were analyzed according to Straw-Bert model (glossing, 3-step coding, continuous comparative analysis, concept formation, concept development, defining the main variable).

Results

The findings of this study showed that most of the urinary tract infections were in girls of 3 month to 6 year old. Seven children whose par-

ents were interviewed included two infants, two 3-year old, one 4-year old and one 6-year old. In this study, once the interviews were finished, about 115 codes were extracted in the first level. Some examples of the first level codes are as followings:

1. Infections of the urinary tract lead to convulsion.
2. Urinary reflex cause urinary tract infection.
3. Urine tests are necessary for diagnosing the urinary tract infection.
4. Sense burning when urinating is usually a symptom of a urinary tract infection.
5. Girls suffer from urinary tract infection more than boys.

In the second level coding, 115 codes of the first level were evaluated and categorized in 8 main groups based on similarities and relations.

Second level coding results are as follow:

1. Knowing the symptoms of urinary tract infection.
2. Dangerous factors.
3. Diet and medication.
4. Interventions in urinary tract infection and prevention of its happening and relapse.
5. Education, instruction and knowledge.
6. Diagnosing tests and follow-up proceeds.
7. Urinary tract infection side effects and delay in treatment.
8. The role of health care authorities.

In the third level of coding, these 8 groups were joined to define the main effective categories and groups on self-care to prevent the urinary tract infection. The results of this level gave three main categories of data.

Third level coding results were as follow:

1. The important and necessary components for diagnosing and controlling urinary tract infection in children include knowing the symptoms, dangerous factors, nutrition diet, medication, side effects and delay in treatment.
2. Necessities for and problems of controlling urinary tract infection in children include interventions, prevention of the disease and its relapse, diagnosing tests and follow-up proceeds.
3. Elements and main principles for controlling urinary tract infection in children include

education, instructions and knowledge and the role of health care authorities.

Further analysis and data comparing led to a new concept: "the role of involved people and insufficient information", which affects the nature and structure of self-care to prevent urinary tract infection in children. The lack of an effective relation between involved people lead to lack of information, understanding and knowledge about the nature and dangerous side effects of the disease and the outcomes of delay in treatment and frequent relapse of urinary tract infection. These follow with neglect and no follow-up proceeds for patients and those who take care of them.

Discussion

The findings of this study showed that there are two important problems related to the question of the research: 1. lack of knowledge and understanding; 2. irresponsibility of health care authorities.

According to findings of several studies, it is clear that the concepts obtained in the analysis process of this research have been mentioned, emphasized and approved with other studies conducted in different societies and regions. For example, a selection of data on the research shows that urine retention, urine reflux and urinary hesitancy due to being absorbed in playing with other kids in the nurseries have a certain role in getting infectious. The results of Ahmed et al study showed that any factor causing urine stagnation in urinary system (kidney stone, urine blockage, urinating disorders, Vesicoureteral reflex and urine retention) make the children vulnerable for urinary tract infections.¹⁴ Landau also showed that the prevalence of urinary tract infections among girls is 1-5% but it is rare among boys.⁵ Another finding of this study is the necessity of controlling constipation in children. The results of Launda study also showed that curing constipation or disorders related to emptying the bladder separately or simultaneously are clinically decreasing the frequency of urinary tract infections.⁵ In conclusion, the results of this study show that to have a better knowledge about the disease, the correct way to con-

control it, the appropriate diagnosing proceeds and follow-ups, it is necessary that authorities in both health care system and education system, provide sufficient and necessary information for society. Regarding this, Chockalingam et al believe that providing appropriate education for patients is an essential part of treatment and control plan and develops and improves the capacity of patients' participation in the process.¹⁵

The lack of information and insufficient understanding about the nature and the side effects of the disease, cause patients to neglect the disease and health care advices, which leads to frequent relapse and dangerous side effects. Children's nurses have an important role in teaching the nurseries employees and children's parents the appropriate way of self-care and personal health care for the kids. It is necessary for nurses, especially family health and children

health nurses, to learn about self-care to prevent urinary tract infections in children and the advantages of teaching that to the families and nurseries employees and use them in their caring activities.

We suggest some self-cares to prevent urinary tract infections in children in table 1.

Table 1. Self-cares to prevent urinary tract infections

Education and information
Dangerous factors
Knowing the symptoms
Diagnosing proceeds
Effective health care and follow-ups
Medication

Also, the authors declare that have no conflict of interest in this study and they have surveyed under the research ethics.

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