





Original Article

Parents' Knowledge of Genetic Care and UTI Events in Toddlers in the Children's Ward

Pria Wahyu Romadhon Girianto¹

¹ *Karya Husada Kediri Institute of Health Science, Kediri, East Java, Indonesia*

ARTICLE INFO	ABSTRACT
<p>Article History: Submit : May 23, 2022 Revised : Nov 6, 2022 Accepted : Dec 18, 2022</p> <p>Keywords: Knowledge, Urinary Tract Infections, Toddlers</p>	<p>Background: Infections of the urinary tract caused by bacterial invasion are known as urinary tract infections (UTI). The ability of parents to Genetalia's care can be seen in how to clean Genetalia, cleaning during urinating or defecating, habits of disposable diaper changing, and habits of anal cleansing. This study aimed to investigate the correlation between the parents' ability to care for their children with the incidence of UTI in toddlers in the children's ward of Amelia Hospital Pare Kediri.</p> <p>Methods: The design used in this study was cross-sectional. There were 81 respondents in the research of toddlers who fulfilled inclusion criteria. This was done using purposive sampling. The independent variables were the parents' ability to take care of their children and the dependent variables were the incidence of UTI in their children. Data was collected using respondent observations.</p> <p>Results: The result showed that almost all respondents have a lack of parents' ability to care for their children (65.4%) and almost all toddlers have an incidence of urinary tract infection (63.3%). After analyzing the data with the cramer's v contingency coefficient test and obtaining = 0.000, H1 was accepted and Ho was rejected, indicating that there was a relationship between family support and quality of life. $r = 0$ to 79.</p> <p>Conclusion: In order to prevent the increasing incidence of UTI, it is recommended that hospitals increase the preventive efforts of ISK events in infants by providing counseling to parents using media such as leaflets, brochures, or video screenings.</p>
<p> <i>Corresponding Author</i></p> <p> <i>Affiliation</i></p> <p> <i>Email</i></p> <p> <i>Cite this as</i></p>	<p>: Pria Wahyu Romadhon Girianto</p> <p>: Karya Husada Kediri Institute of Health Science, Kediri, East Java, Indonesia</p> <p>: priawahyu88@gmail.com</p> <p>: Girianto, P. W. R. Parents' Knowledge of Genetic Care and UTI Events in Toddlers in the Children's Ward. Journal of Applied Nursing and Health, 4(2). https://doi.org/10.55018/janh.v4i2.56</p>

Introduction

One infectious disease that needs serious attention is urinary tract infection (UTI). Urinary Tract Infection (UTI) is an infectious disease caused by bacterial invasion of ordinarily sterile areas in the urinary tract (Nawakasari, N., & Nugraheni, 2019). The frequency of urinary tract infections in the toddler population is the

second most common infection after respiratory tract infections (Axton, S., & Fugate, 2013). UTI is the most common bacterial infection in the toddler-to-childhood period, with an incidence of 30% of infants and toddlers experiencing it (Stein, R., Dogan, H. S., Hoebeke, P., Kocvara, R., Nijman, R. J. M., Radmayr, C., & Tekgul, 2015). Recurrent infections can also occur in infants and toddlers during the first 6–12



months after the onset of a UTI. Bacterial organisms usually cause UTIs including *Escherichia coli* (75-90%), *Klebsiella*, enteric *Streptococci*, *Proteus*, *Pseudomonas*, *Enterobacter*, and *Staphylococcus*. The causes of UTIs include reflux disorders, poor personal hygiene after urinating, prolonged use of diapers, applying powder to the toddler's genital area, catheterization, circumcision, and the habit of holding back urination in toddlers.

According to WHO, one-third of the 25 million deaths worldwide are caused by infectious diseases (Prasetyoningsih, 2018). Infectious diseases are still at the top of the list of causes of morbidity and mortality in developing countries, including Indonesia. In Indonesia, urinary tract infections are still a concern. This is shown based on data from the Ministry of Health of the Republic of Indonesia in 2016, showing that the number of patients with urinary tract infections (UTI) reaches 90–100 cases per 100,000 population per year. In the East Java region, the number of cases of urinary tract infection reaches 3–4 cases per 100,000 population per year (Kemenkes, 2017). In 2% of male children under five and 7% of female children under five who suffer from fever, a symptomatic culture of symptoms of urinary tract infection is found at the age of six years. Estimates that 3–7% of toddlers have urinary tract infections (UTI) (Yarnell et al., 2020). The data shows that urinary system diseases are included in the 10 diseases in Indonesia that cause hospitalization (Mackey & Bassendowski, 2017). The results of a preliminary study in the Children's Room of Amalia Pare Hospital, data obtained on the number of under-five patients at Amelia Pare Hospital in the last 3 months were 484 patients, while the number of UTI patients in toddlers in the last 3 months was 94 toddlers. The number of children under five treated in the Children's Room of Amelia Hospital in the

last month was 101. According to the results of observations of 8 toddlers who were treated in the Children's Room of Amalia Pare Hospital, there were 7 parents (87.5%) who used powder in the genitals after bathing their toddlers, 4 parents (50%) cleaned their genitals only when changing diapers after their toddlers bathed, and 8 parents (100%) cleaned the genitalia of toddlers from front to back.

Bacteria from urine can come from the kidneys, ureters, bladder, and urethra. The bladder mucosa is covered by a glycoprotein mucin layer which functions as an anti-bacterial. The tearing of this layer can cause bacteria to adhere, form colonies on the mucosal surface, enter through the epithelium, and then inflammation occurs. Bacteria from the bladder can go up the ureters and reach the kidneys through a thin layer of fluid (films of fluid). Bacteria will enter more efficiently, especially with the failure of vesicoureteral reflux, causing UTI. One way to confirm the UTI diagnosis is by urine culture with single species results. At 105 CFU/ml of urine, there is an increase in pH with standard limits of 5-7 and an increase in leukocytes, erythrocytes, and epithelium. In urinary tract infections (UTIs), organisms can enter the urinary tract through the bloodstream, but more often, they enter from the genital area, which ascends through the urethra to the bladder. There are two clinical classifications of UTI in children under five: the clinical classification of mild UTI and the clinical classification of severe UTI (Lenis et al., 2020). Recurrent UTI, hypertension, kidney failure, and kidney scarring are all consequences of UTI. Risk factors for kidney scarring include young age, delay in giving antibiotics to manage UTIs, recurrent infections, and urinary tract obstruction (Purba, A. A., Ardhani, P., Patria, S. Y., & Sadjimin, 2012).

Parents have an essential role in the growth and development process and care for toddlers when they are healthy or sick. According to the concept of family empowerment and family-centered care, parents must have a set of knowledge and skills about the care of their toddlers to be involved in the care of toddlers in hospitals (Sulisnadewi, 2013). This is also supported by the theory of dependent care (DC) that parents are dependent care providers that involve individuals, families, and communities in a learning process (Ji & Levinson, 2020).

One of the independent actions that can be taken by parents of toddlers who experience UTI is genitalia care. However, many parents still do not know about the importance of maternity care. The management of toddlers with UTI is necessary to maintain the cleanliness of the genital area or perineum. For female infants or toddlers, clean the genitals with cotton swabs from front to back and immediately discard the cotton, not powdering the toddler's genital area (Ngastiyah., 2012). If the toddler's pants are dirty, they must be replaced immediately, and you need to clean the genitalia after the toddler has urinated. Parents are expected to be able to carry out genital care so that they can prevent and reduce UTI morbidity in toddlers. Health education about independent nursing interventions and treatment planning according to patient needs can reduce healthcare costs, improve service quality, and help patients become healthier and better able to prevent disease (Sulisnadewi, 2013). This phenomenon makes researchers interested in knowing "Parents' knowledge of genital care and the incidence of UTI Event in toddlers in the Children's Ward at Amelia Hospital Kediri."

Methods

The STIKES Karya Husada Kediri ethics committee has declared this ethical research clearance. The research design was correlative with a cross-sectional approach. The sample in this study were toddlers treated at Amelia Hospital, with a total of 81 respondents selected by purposive sampling technique. The research is located at Amelia Hospital, Kediri. Inclusion Criteria: Parents whose children are being treated at Amelia Hospital and are willing to be respondents; children under five; and children who are being cared for by their parents. Data collection techniques were carried out by observing the mother's cleaning of the toddler's genitalia and observing the results of the child's urine culture—statistical analysis using the Spearman Rank test. Research has obtained Ethical Clearance.

Results

Table 1 Distribution Frequension of the data demographic

Variable	n	%
Parent's Age		
25 years old	23	28,4%
25-30 years old	22	27,2%
30-35 years old	15	18,5%
35-40 years old	11	13,6%
40-45 years old	6	7,4%
45 years old	4	4,9%
Education		
Elementary School	0	0%
Junior High School	3	3,7%
Senior High School	58	71,6%
University	20	24,7%
Information about UTI		
Never before	79	97,5%
Ever	2	2,5%
Toddler's Sex		
Male	43	53,1%
Female	38	46,9%
Toddler's Age		
1 year old	18	22,2%
1-2 years old	14	17,3%
2-3 years old	18	22,2%

3-4 years old	10	12,3%
4-5 years old	21	25,9%
Disposable Diapers		
No	14	17,3%
Yes	67	82,7%

According to table 1, most respondents' parents are 25 years old (28.4%), with as many as 23 respondents having a high school education (71.6%), and the majority have never received information about genital care as a child. Toddlers (97.5%) For as many as 79 respondents, the gender of children under five is primarily male (53.1%). There were 43 respondents, and the age of children under five was mostly 4-5 years old (25.9%). There were 21 respondents, and the use of disposable diapers among toddlers was mostly (82.7%). There were 67 respondents.

Table 2. Parent's knowledge of Genetalia Care

No	Level	n	%
1	Less	53	65,4%
2	Enough	21	25,9%
3	Good	7	8,6%
Total		81	100%

Based on table 2, shows that the results of observations show that parents can take care of children under five (65.4%) as many as 53 respondents. This lack of parental competence includes parents not cleaning their child's genitalia from front to back, not cleaning between the child's genitalia, namely the perineum/genitalia in girls and the foreskin in boys, using cotton buds/cotton and boiled/clean water. Parents do not wash their hands before and after cleaning the child's genitalia or perineal area if they change diapers for more than 4 hours per day or less than 6 times per day.

Table 3 UTI Criteria

No	Criteria	n	%
1	UTI Negative	30	37%
2	UTI Positive	51	63%
Total		81	100%

Table 3 shows that most toddlers treated in the children's room experienced UTI (63%), as many as 51 respondents. The incidence of UTI can be seen from the results of urine-supporting examinations, which include the results of leukocyte indicators (normal: 0-2/lp), urine bacteria (normal: negative), and nitrite (normal: harmful). Toddlers will be declared UTI if one or more abnormalities are found in these indicators.

Table 4 Crosstabulation Parent's Know-ledge with UTI

Parent's Knowledge	UTI				Total		r	p
	UTI Negative		UTI Positive		n	%		
	n	%	n	%				
Less	5	6,2	48	59,3	53	65,5	0,790	0,000
Enough	18	22,2	3	3,7	21	25,9		
Good	7	8,6	0	0	7	8,6		
Total	30	37	51	63	81	100		

Based on table 4, shows that parents who have less ability to genital care for toddlers have toddlers who experience UTI events. The analysis using the contingency coefficient test obtained a p-value of 0.000 at a significant level $\alpha = 0.05$, with a correlation of 0.790. It can be concluded that there is a significant correlation between parents' ability to care for genetics and the incidence of UTI in toddlers with a high level of solid correlation, meaning that the less ability of parents in genital care for toddlers, the greater the incidence of UTI in these toddlers.



Discussion

The results of the analysis using the contingency coefficient test obtained p-value = 0.000 at a significant level $\alpha = 0.05$, with a correlation = 0.790. It can be concluded that there is a significant correlation between parents' ability about genital care and the incidence of UTI in toddlers. The findings of this study show a strong correlation, which means that the better parents' ability in genital care for toddlers, the less likely toddlers will experience UTIs; conversely, the less ability of parents in genital care, the more likely toddlers will experience UTIs.

Urinary Tract Infection (UTI) is the growth and proliferation of germs or microbes in the urinary tract in significant numbers (Pardede, S., Tambunan, T., Alatas, H., Trihono, P. P., & Hidayati, 2012). Risk factors influencing the occurrence of UTIs in toddlers include gender, use of disposable diapers, anatomical abnormalities of the urinary tract, circumcision, urinary retention habits, and genital hygiene (Maknunah, L., Wahjudi, P., & Ramani, 2016). Factors that can be prevented include the correct use of disposable diapers; circumcision in boys; preventing the habit of holding urine in toddlers; and maintaining good genital hygiene. Lack of genital hygiene in infants or toddlers can cause infection in the perineal area or urinary tract. Therefore, the cleanliness of the genital area/perineum needs to be considered (Ngastiyah., 2012).

Parents' ability is the capacity given to their children's attitudes and behavior to care for them (Sadri, 2014). Factors that affect these abilities are intellectual abilities, including thinking, reasoning, and solving problems; they also consist of physical abilities, which include stamina, strength, and skills. Indicators of the ability of parents to care for children's genitalia can

be seen from how to clean the child's genitalia from front to back when the child is urinating or defecating with clean water, changing disposable diapers in less than 4 hours, and cleaning the anus first before bathing the child.

Based on the results of research from 81 respondents, it was found that the ability of parents to be less capable of caring for toddlers' genitalia was 53 people, the ability of parents to be sufficient in caring for toddlers' genitalia was 21 people, and the ability of parents to be good in caring for toddlers' genitalia was 7 people. Based on this, it can be concluded that most respondents are less capable of providing genital care for toddlers. Of the 53 respondents with inadequate genetic care skills, 48 (90.6%) had UTI, and five (9.4%) did not. Based on this percentage, it appears that the majority of respondents with poor genetic care skills have toddlers with UTIs.

The factors that affect UTI based on the results of research observations on respondents in parents who have less genital care ability can be seen from the inability to clean the child's genitalia from front to back, not cleaning between the child's genitalia, namely the perineum/genitalia on the For the foreskin in girls and boys, use a cotton swab or cotton and boiled or clean water. Besides, if parents change disposable diapers more than 4 hours a day or change diapers less than 6 times a day, then parents do not make the washing habit. Hands before and after cleaning the child's genitalia/perineal. Incompetence in genital care can be a trigger for UTIs in toddlers. This is supported by the results of Sawalha's research (2015), which states that keeping the genital area clean can protect against UTIs, provide comfort for toddlers, and prevent rashes in the genital and perineal areas.

Based on the research results on parents with sufficient genitalia care ability, as many as 21 people (25.9%) and those who have good abilities, as many as 7 people (8.6%). There are 4 parents with sufficient ability with children who experience UTI incidence and 17 people with sufficient ability with children who do not experience UTI. Seven parents are skilled in genital care, and three have toddlers who do not have UTIs. These results show that the ability of parents who are sufficient and good at genital care is more dominant in having children under five who do not experience UTI events (Disler et al., 2019; Gerace & Muir - Cochrane, 2019). Parents who have good abilities include cleaning the child's genitalia from front to back; using a cotton swab once; not wiping the genitalia repeatedly with the same cotton; using clean water to wipe the child; and using soap to clean the genitalia thoroughly. Cleaning the child's genital area after urinating or defecating and then drying the genitalia, cleaning the child's genitalia carefully and not using powder in the mouth of the toddler's genitalia, changing the toddler's diaper if it looks dirty or full of bowel and bladder, cleaning the anal first before bathing, and using underpants or diapers for toddlers, which are made of soft material and easy to absorb (Kamboj et al., 2019; Smeltzer, 2014).

The ability of parents to care for children's genitalia is related to the incidence of UTIs in toddlers. This is supported by the research results of Maknunah et al. (2016), which state that the habit of cleaning the genitalia is 0.098 times more likely to avoid UTIs than respondents who do not have the habit of cleaning the genitalia of toddlers. Toddlers with poor genital hygiene have four times the risk of experiencing UTIs compared to toddlers with better genital hygiene (Purba, A. A., Ardhani, P., Patria, S. Y., & Sadjimin, 2012).

The existence of a relationship between the ability of parents to provide genital care and the incidence of UTI in toddlers is due to the inseparable role of parents in providing correct health care for children under five (Rosda, 2019; Sele, 2019). Toddlers at all stages of age still depend on the role of parents for growth and development and the fulfillment of daily needs. Parents are expected to be able to provide good care to maintain the health of children, especially at the age of toddlers. Limited experience caring for children at a young age, limited access to information, aversion to learning and seeking information related to the concept of health and illness for children, and is also a trigger for UTIs in toddlers. Parents who can use their abilities in the form of cognitive, affective, and psychomotor through using media such as access to information on social media to obtain information on educational services, as well as health education regarding UTI, then implement it in child care. Parents' abilities include knowledge, habits, and attitudes toward genital care as a preventive measure to prevent bacterial and fecal colonization in the child's urinary tract. An understanding of how to take proper care of the genitals and that it is carried out by parents continuously can reduce the possibility of UTIs that can interfere with the health of children under five. The ability of good parents in genital care of toddlers can prevent the prevalence of UTI in toddlers, reduce the morbidity of toddlers with UTIs, and even reduce the possibility of toddler hospitalization; conversely, the less ability of parents in genital care, the greater the chance of UTI incidence in toddlers.

Conclusion

Based on the results of the study entitled Parents' Knowledge of Genetalia Care with

UTI Incidence in Toddlers in the Children's Room, Amelia Pare Hospital, Kediri, the following results were obtained: Almost all respondents have poor skills in genital care for Toddler at Amelia Hospital, Kediri, almost all toddlers at Amelia Hospital Kediri have Urinary Tract Infection, The ability of parents in genital care is related to the incidence of UTI in toddlers in the Children's Room at Amelia Hospital, Kediri. The less able the parents are, the child will tend to experience UTI.

Authors Contributions

The author carries out tasks from data collection, data analysis, making discussions to making manuscripts

Conflicts of Interest

There is no conflict of interest

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