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Research Article

Effectiveness of Organized Teaching Program on Knowledge Regarding Prevention of Urinary Tract Infection Among Adolescent Girls at Govt. Girls Higher Secondary School Source Srinagar, Kashmir

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I N F O

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A B S T R A C T

Background: Adolescents are especially vulnerable since their bodies are through profound changes in their structure and function at this time. Adolescents are at an age where they can and should take charge of their own health care decisions, particularly those related to hygiene, food, exercise, and medical exams. The goal of this study was to improve adolescent girls' understanding of how to avoid getting urinary tract infections so that they would have healthier lives and develop habits that would be healthy for their bodies and minds.

Objectives: The purpose of this research is twofold: (1) to evaluate whether or not there is a correlation between adolescent girls' pre-test knowledge score and selected demographic variables; and (2) to compare adolescent girls' pre-test and post-test knowledge of how to avoid getting a UTI.

Methodology: We employed a quantitative methodology, and our research design was a simple before-and-after test administered to a single group. Sixty female high school students were selected using a technique called simple random selection. To gauge comprehension, people used questions they devised themselves.

Results: The current study found that 75% of participants had only minimal knowledge, 25% had just inadequate information, and 0% had more than sufficient knowledge regarding how to avoid catching a urinary tract infection. The post-test results revealed that 68.3% of participants had adequate knowledge, 31.7% had intermediate knowledge, and 0% had poor knowledge regarding how to prevent urinary tract infections.

The subjects' mean post-test score for UTI prevention was 21.37 (SD = 2.033), which was a big jump from their mean pre-test score of 12.70 (2.89).
Conclusion: The majority of the studies showed that adolescent females know relatively little about the prevention of urinary tract infections. Subject matter competence was shown to have increased as a result of the structured learning program.

Keywords: Adolescents, Effectiveness, Organized Teaching Program, Urinary Tract Infection, Knowledge, Prevention.

Introduction

A person's transition from infancy to adulthood is the defining period of adolescence. The World Health Organization (WHO) specifies the ages 10–19 as adolescence. Rapid physical, biochemical, and hormonal changes occur in combination with psychological, behavioral, and sexual maturity. The duration might range from a few weeks to several years. A healthy nation needs to foster a healthy generation of teens.

The Urinary System is the network of organs that creates, stores, and eliminates pee. The Excretory System is another name for this network. In human beings, this system is comprised of the kidneys, ureters, bladder, and urethra. The kidneys, which are the size and form of a bean, are located on the right side of the abdomen, below the rib cage. The renal medulla is the tissue that makes up the kidneys. The kidney's main job is to filter out any unwanted substances that might be dissolved in water. In addition to regulating the body's acid-base balance, the kidney also controls electrolyte levels and urine concentration. Humans produce an average of 2.9 liters of urine each day, however this volume may fluctuate widely based on a number of factors. There may be an effect on kidney function from changes in the body's fluid condition. This is due to the correlation between glomerular filtration rate and blood flow through the kidneys, which in turn directly affects the rate of filtration. The term "urinary tract infection" is used to describe an infection that has spread anywhere throughout the urinary system. Customers with upper urinary tract infections are more likely to experience kidney impairment, as is generally accepted in the medical community.

Teenage girls are disproportionately affected by acute UTIs that aren't very complicated, making them the fourth most prevalent reason for hospital visits among teenagers. An estimated 150 million UTIs occur annually throughout the world, costing the healthcare system over $6 billion in direct costs alone. An infection of the urinary system may result in a high temperature, chills, many trips to the restroom, urgency, suprapubic pressure or discomfort, flank pain, and recurrent pain in the flanks.

The 2000 National Family Health Survey of India revealed 16.6% of girls aged 10–19 had urinary tract infections and 5–10% had bacteremia. Young women are more likely to have urinary tract infections (UTIs) if they use synthetic underwear, pants that are too tight, damp bathing suits, allergens and irritants, feminine hygiene sprays, scented toilet paper, and sanitary napkins. Dysfunctional urination, poor hygiene, and allergens/irritants increase risk. Teens are more susceptible to genitourinary infections due to ignorance and inadequate hygiene. Thus, teenage females need health interventions to prevent and cure UTIs.

When we talk about personal hygiene, we're referring to the habit of taking care of one's outward appearance. The standards for personal cleanliness that are expected of women and men are not quite the same. In order to avoid menstrual-related issues including urinary tract infections, women need to take extra care with their personal cleanliness. One can prevent or at least delay the onset of hygiene problems by learning to identify the factors that contribute to them.

Urinary tract infections can be diagnosed using a variety of means, including the collection of normal urine, the culture of urine for the purpose of sensitivity testing, and certain imaging techniques including intravenous pyelograms and abdominal computed tomography scans. Antimicrobial therapy, which may involve antibiotics, should be initiated after the causative organism has been identified. Young women who suffer from recurrent urinary tract infections may be prescribed antibiotics for prophylaxis or treatment.

Horowitz M, Cochen (2017)[11]

We conducted a cross-sectional research of adolescent urinary tract infections in a rural region of Karimnagar, Andhra Pradesh, involving 181 young women ages 10 to 19. We used an interview-based questionnaire with sections on sexual activity, hygiene, and genital tract diseases. The survey's questions were set in advance. "The presence of a vaginal discharge (CI=95%, P,0.001), malnutrition (CI=95%, $P < 0.001$), inappropriate perineal cleaning technique (CI=95%, $P < 0.001$), and the use of sanitary pads during menstruation (CI=95%, $P < 0.001$) were all significant risk factors for the development of a urinary tract infection (UTI)." Common fallacies regarding periods include the belief that women should avoid certain foods and taking showers during that time, the study found. Women from lower socioeconomic backgrounds were more likely to get urinary tract infections during their periods because they used the same piece of fabric repeatedly as a sanitary pad.

Objectives

Primary aim was to (1) evaluate the degree of pre-test knowledge of urinary tract infection prevention among

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female high school students attending a government-run secondary school for girls in Srinagar, Kashmir.

The second goal was to evaluate the post-test knowledge of UTI diagnosis, treatment, and prevention amongst teenage females at the Government females Higher Secondary School in Court Srinagar.

Third, to make conclusions about the efficacy of a structured teaching program by comparing the test results of a sample of teenage girls before and after the program on a test of their knowledge on the prevention of urinary tract infections.

The goal of this study was to see if certain demographic factors (age, academic education of the student, family type, Total family income, father's occupation, mother's occupation, and a previous source of information) were related to adolescent girls' pre-test scores on their knowledge of how to prevent urinary tract infections.

Analyze the relationship between adolescent girls' pre-test knowledge and specific demographic variables related to the avoidance of UTIs.

Methodology

An investigation's "research methodology" is its overall framework for systematically amassing valid and trustworthy information. In this study, we employed a quantitative research technique to ask our questions. A self-designed questionnaire was used to assess students' awareness on how to prevent UTIs.

Research Design

The purpose of this pre-experimental, one-group, pre- and post-test research was to draw conclusions regarding whether or not a structured education program enhanced the understanding of how to prevent acquiring urinary tract infections among teenage females who attended Government. Girls Higher Secondary School Soura in Srinagar, Kashmir. People from Kashmir, where the study took place, participated. Sixty teenage girls were selected from the general community using simple random selection for this study. Because of this, a more accurate cross-section of the population could be sampled.

Inclusion Criteria

Adolescent girls who were.

Studying in class 9th 10th and 11th.

Available on the day of data collection.

Willing to participate in the study.

Exclusion Criteria

Adolescent girls who were.

Studying in classes other than 9th 10th and 11th.

Less than 13 and more than 19 years of age.

Not willing to participate in the study.

Who was with physical illness

Development of the Tool

A comprehensive educational plan for urinary tract infections was developed, including readings on the condition's description, risk factors, clinical manifestations, investigation, prevention, and repercussions. A self-structured questionnaire on preventing urinary tract infections was designed after content validity testing and instrument modification were finalized. Trustworthiness is determined using a combination of the Tesretesttt and the Karl Pearson's coefficient of correlation. With a coefficient of reliability of 0.92, the instrument employed in the study was considered reliable. Each question on a self-structured questionnaire schedule includes one valid response and two possible false ones.

Results

Study participants aged 17–19 made up the largest age group (36.7%), and their results showed that this group had the highest degree of knowledge on how to prevent urinary tract infections. About one-third of the pupils' coursework corresponded to ninth-, tenth-, or eleventh-grade material. People from nuclear households made up the vast majority of research participants (71.7%). The median annual income was less than 30,000 rupees for more than half of the participants. According to the father's employment status, 90% of the study participants were classified as working adults. According to the mothers' occupations, 81.7% of the sample did not have regular paid work. One hundred percent of the participants in the study reported having no prior knowledge or experience with urinary tract infections from any previous sources.

The current study found that 75% of participants had intermediate knowledge, 25% had insufficient information, and 0% had adequate knowledge about how to prevent urinary tract infections from taking place before the study even began. On the post-test, the majority of research participants (68.3%) shown adequate knowledge, 31.7% demonstrated intermediate knowledge, and not a single person demonstrated poor knowledge about how to prevent getting a urinary tract infection.

On questions pertaining to the avoidance of urinary tract infections (21.37±2.033), the respondents' post-test mean score was considerably higher than their pre-test means score (12.70±2.89). This was proved by the statistical significance of the difference in scores between the two groups.

Relationship between people' existing knowledge and the selected demographic factors

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Age ($p < 0.05$), student education level ($p < 0.005$), family composition ($p = 0.038$), household income ($p < 0.005$), and prior exposure to information all had a significant impact on participants' pre-test scores on their ability to prevent urinary tract infections. On the other hand, the pre-test knowledge score of research individuals was not significantly associated with demographic characteristics like the

Table 1 shows that among the study participants, a third (33.3%) were between the ages of 13 and 14, while another third (30.0%) were between the ages of 15 and 16, and a third (36.7%) were between the ages of 17 and 19. Approximately one-third (33.3%) of the courses taken by the pupils were those taught in either the ninth or first grade, and another third (33.3%) were taught in either the eleventh or twelfth grade. The vast majority of study participants (71.7%) were from nuclear families, whereas the remaining participants (28.3%) were members of mixed families. Participants' dads' occupations indicated that the great majority (90.0%) of the persons in the study had employment while the rest (10.0%) did not. moms' employment status was used to determine whether or not participants in the study were employed; for 81.7% of participants, moms did not work and for 18.3%, mothers did. One hundred percent of the participants in the study reported having no prior knowledge or experience with urinary tract infections from any previous sources.

Table 1.Frequency and percentage distribution of study subjects according to Demographic variables.

[N=60]

"Variables	Category	Frequency	Percentage
Age	13-14 Years	20	33.3%
	15-16 Years	18	30.0%
	17-19 Years	22	36.7%
Academic Education	9th	20	33.3%
	10th	20	33.3%
	11th	20	33.3%
Type of Family	Nuclear	43	71.7%
	Joint	17	28.3%
Total Family Income	Less than Rs 30,000	35	58.3%
	Rs.40,000-50,000	18	30.0%
	Rs more than 50,000	7	11.7%
Occupation of Father	Working	54	90.0%
	Non-Working	6	10.0%
Occupation of Mother	Working	11	18.3%
	Non-Working	49	81.7%
Previous Source of Information	Yes	0	0.0%
	No	60	100.0%"

Table 2.Frequency and percentage distribution of study subjects according to their pre-test knowledge score regarding prevention of urinary tract infection.

Knowledge LEVEL	Frequency(f)	Percentage (%)
Inadequate Knowledge (0-20)	15	25%
Moderate Knowledge (21 To 31)	45	75%
Adequate Knowledge (32 To 42)	0	0%

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Seventy-five percent of the research subjects were found to have intermediate knowledge, twenty-five percent to have inadequate knowledge, and zero to have sufficient knowledge, all as determined by the pre-test. Table 2 displays the results.

The majority of the research subjects (68.3%) shown enough knowledge on the post-test, while 31.7% demonstrated intermediate knowledge, and none demonstrated insufficient knowledge. The data is summarized in Table 3.

Table 4 shows that the majority of participants (75%) had intermediate knowledge, one-quarter of participants (25%) had insufficient knowledge, and no participants had strong knowledge on the mean pre-test. The majority of participants (68.3%) had acceptable knowledge after completing the mean post-test about how to prevent urinary tract infections, whereas 31.7% had intermediate knowledge and none had poor knowledge. This indicates that most participants gained adequate knowledge as a consequence of a well-designed training session.

Table 3: Frequency and Percentage distribution of study subjects according to post-test knowledge score regarding prevention of urinary tract infection

[N=60]

Knowledge level	Frequency(f)	Percentage (%)
Inadequate Knowledge (0-20)	0	0%
Moderate Knowledge (21 To 31)	19	31.7%
Adequate Knowledge (32 To 42)	41	68.3%

Table 4: Comparison of pre-test and post-test knowledge score and significance of different between the mean pretest and post-test knowledge.

[N=60]

Knowledge level of study subjects	Knowledge scores of study subjects	Pre-test knowledge Score		Post-test knowledge Score	
		Frequency	Percentage	Frequency	Percentage
Inadequate knowledge	(0-20)	15	25%	0	0%
Moderate Knowledge	(21-30)	45	75%	19	31.7%
Adequate Knowledge	(32-42)	0	0%	41	68.3%

*Significant at 0.05 level

Table 4: Comparison of pre-test and post-test knowledge score and significance of different between the mean pretest and post-test knowledge.

[N=60]

"Variables	categories	Adequate Knowledge	Moderate Knowledge	Inadequate Knowledge	Chi Test	df	P Value	Result
Age	13-14 Years	0	6	14	24.133	4	<0.005	*Significant
	15-16 Years	2	14	2				
	17-19 Years	1	19	2				
Academic Education	9th	0	5	15	29.872	4	<0.005	*Significant
	10th	1	18	1				
	11th	2	16	2				
Type of Family	Nuclear	3	31	9	6.522	2	0.038	*Significant
	Joint	0	8	9				

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Total Family Income	Less than Rs 30,000	1	30	4	26.711	4	<0.005	*Significant
	Rs.40,000-50,000	0	6	12				
	Rs more than 50,000	2	3	2				
Occupation of Father	Working	3	35	16	0.361	2	0.835	Non-Significant
	Non-Working	0	4	2				
Occupation of Mother	Working	1	9	1	3.000	2	0.223	Non-Significant
	Non-Working	2	30	17				
Previous Source of Information	Yes	0	0	0	23.11	2	0.025	*Significant"
	No	3	39	18				

Discussion

Most participants (36.7% in this study) were between the ages of 17 and 19, with another third (33.3% in this study) falling in the younger age range of 13 to 14 years old and another third (30.0% in this study) falling in the older age range of 15 to 16 years old. About one-third of the pupils' coursework corresponded to ninth-, tenth-, or eleventh-grade material. The great majority of survey takers were from nuclear families (71.7%), while only 28.3% were members of blended families. Participants' average annual earnings ranged from 30,000 to 50,000 rupees (58.3%), 40,000 to 50,000 rupees (30.0%), and 50,000 rupees and above (11.7%). The great majority of participants in this study (90.0%) were categorized as working, while the remaining participants in this study (10%) were classified as non-working, based on the employment status of the father. Eighty-one percent of the persons in the survey did not have occupations, which corresponded with the work status of the mother, while just 18.3 percent did. One hundred percent of the participants in the study reported having no prior knowledge or experience with urinary tract infections from any previous sources.

ASHA (2018) found that the structured education approach for avoiding urinary tract infections in teenage females at Cambridge High School in Bangalore (N=60) was successful. This research examined whether a systematic teaching program reduces urinary tract infections. Forty of the 47 samples (67% of the total) were in the 13-14 age group. Out of a total of 60 samples, 37 (or 62%) were eighth graders based on their level of schooling. Out of sixty separate samples, forty-six respondents, or 77%, came from nuclear households when asked about their family composition. Thirty (or 50%) of the sixty respondents reported monthly incomes of five thousand to ten thousand rupees. Thirty-four (57%) of the sixty respondents were employed at the time of the survey. This was established by looking at where the father was working. When taking into account the mother's job status, 34 (57%) of the 60 respondents were classified as non-working. The majority of respondents (27 out of 60, or 45%) learnt about urinary tract infections from sources other than healthcare providers, according to the sources from where the information was received.

There was no link between the participants' pre-test knowledge and demographic variables such as age (p = 1.019), gender (p = 1.36), place of residence (p = 0.19), family composition (p = 2.66) or parental educational status (p = 5.92). This was tested using the 0.05 level of significance.

Conclusion

The study indicated that most survey participants did not know how to avoid UTIs. This was likely because participants had not been exposed to adequate information sources. The organized training program improved teenage girls' urinary tract infection prevention knowledge after the test. The results of the quiz made it very clear.

Participants' pre-test scores were significantly correlated with their self-selected demographic factors, including age, students' academic education, family structure, total family income, and informational background. Furthermore, statistical significance was shown for this connection.

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Non-significant correlations were found between teenage girls' pre-test knowledge scores and selected demographic factors including father's career and employment status.

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Conflicts of Interest: None

Reference

1. Stammer W E, Hooton T.M: Management of urinary tract infection in adolescents. NEMG J med.2009; page no 329, 1328.
2. David Wilson, Marilyn j, Hockenberry: Wong's essentials of Pediatric nursing, 8th edition, Noida, Elsevier publications; 2009; page no: 950,951.
3. Lewis MS, Heitkemper MM, Dirksen RS. Medical surgical nursing. (6 th ed). Philadelphia: Mosby publication 1999; 860-864
4. Kunin C.M: Detection, prevention, and management of urinary tract infection, 4th edition, Philadelphia: leu and febiger, 2017.
5. Apter D, Bolton NJ, and Hammond GL, "Serum sex hormone-binding globulin during puberty in girls and in different types of adolescent menstrual cycles" in America, Available PIMD: 6391059. 2006 Nov; 107(3):413-9.
6. M.C Lachine, Meller ST, Vermin Jones: Urinary tract infection in school girls with covert bacteria. Arch dischild; 2003; page no 50,523.

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