A STUDY TO EVALUATE THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS IN A SELECTED SCHOOL AT VALPARAI, COIMBATORE

COIMBATORE

A DISSERTATION SUBMITTED TO THE TAMILNADU Dr.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

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BY

SUBA.G

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APPROVED BY THE DISSERTATION COMMITTEE ON ……...

RESEARCH GUIDE ……...

DR.S.SELVAKUMARI, M.A, M.Phil, Ph.D.,
PROFESSOR IN RESEARCH METHODS,
ANNAI MEENAKSHI COLLEGE OF NURSING,
COIMBATORE.

CLINICAL GUIDE …….

PROF.DR.GOKILA MANI.P, Ph.D (NURSING)
PROFESSOR,
DEPARTMENT OF MEDICAL SURGICAL NURSING,
ANNAI MEENAKSHI COLLEGE OF NURSING,
COIMBATORE.

MEDICAL EXPERT …….....

PROF.DR.CELESTINE RAJ MANOHAR., M.D.,
PROFESSOR AND UNIT CHIEF OF GENERAL MEDICINE,
KARPAGAM FACULTY OF SCIENCE AND RESEARCH,
COIMBATORE.

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OCTOBER 2019

VIVA VOICE

1. INTERNAL EXAMINER……
2. EXTERNAL EXAMINER……...

This is to certify that the dissertation entitled **"A STUDY TO EVALUATE THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION (IEC) ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS IN A SELECTED SCHOOL AT VALPARAI, COIMBATORE"** is a bonafide work done by **Suba.G, Annai meenakshi college of nursing** in partial fulfillment of the university rules and regulations for the award of **M.Sc.Nursing Degree course** under my guidance and supervision during the academic year **October 2019.**

NAME AND SIGNATURE OF THE GUIDE……..……

NAME AND SIGNATURE OF THE HOD……..……..

NAME AND SIGNATURE OF THE DEAN/PRINCIPAL……

CERTIFIED THAT THIS IS THE BONAFIDE WORK OF

SUBA.G

ANNAI MEENAKSHI COLLEGE OF NURSING,

COIMBATORE, TAMILNADU.

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT

FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

TO THE TAMILNADU Dr.M.G.R MEDICAL

UNIVERSITY, CHENNAI.

COLLEGE SEAL

Prof.Mrs.M.MUMTAZ., M.Sc (N).,MBA., M.Phil.,
PRINCIPAL,
ANNAI MEENAKSHI COLLEGE OF NURSING,
COIMBATORE,
TAMILNADU.

DEDICATION

****

"Keep your dreams alive, understand to achieve anything requires faith and belief in yourself, vision, hard work, determination and dedication. Remember all things are possible for those who believe"

"I dedicate this book to

God almighty who blessed me to finish this work successfully".

I dedicated this dissertation to my lovable Husband ***Mr.K.RAM KUMAR***

Who made my life more special and without him it wouldn't have been possible

to complete my study

I dedicate this book to my mother-in-law ***Mrs. PALU THAI***

For her love and support

I dedicate this book to my lovable parents

Mr.V.GOMATHINAYAGAM, Mrs.S.ANANTHI

Those who made my life purposeful and meaningful

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R.VIGASHAN

Who gave me a marvellous emotional support.

Without their support and love none of my Project

Could have been gone ahead.

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"At The Heart of the Agreement is an Acknowledgement of Organization of the Tradition That One Another Have"

- Tod Leiweke

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ABSTRACT

Urinary tract infection (UTI) is a common disease mainly affecting in adolescent girls because of poor hygiene, dysfunctional voiding patterns, use of synthetic underwear and panties, tight jeans, wet bathing suits, allergens/irritants, famine hygiene sprays, bubble baths, perfumed toilet paper, sanitary napkins and soaps. Lack of adequate knowledge and practices related to maintenances of health leads to infections. Thus, it is very essential to initiate health intervention measures for the prevention and control of urinary tract infection among adolescents girls.

STATEMENT OF THE PROBLEM

"A study to Evaluate the Effectiveness of Information Education Communication (IEC) on Knowledge Regarding Prevention of Urinary Tract Infection among Adolescent Girls in a Selected School at Valparai, Coimbatore".

OBJECTIVES

- To assess the pre-test and post -test knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.
- To evaluate the effectiveness of Information Education and Communication on prevention of urinary tract infection among adolescent girls in a selected school at Valparai.
- To determine the association between the level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

HYPOTHESES

- H_1- There is a significant difference between mean pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.
- H_2-There is a significant association between post-test score on level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

METHODOLOGY

A quantitative approach was adapted with quasi experimental design was used in this study. The study was conducted in a Government Girl's Higher Secondary School at Valparai. The 150 adolescent girls were selected through random sampling technique. The data collection tool was validated by experts and was found to be valid and the data was collected by structured self administered knowledge questionnaire. The pre test was conducted from adolescent girls on 1st day. Information education and communication (IEC) was given through Liquefied Crystal Display projector for 45 minutes on same day. Post test was conducted on 6th day. The collected data were analyzed by using both descriptive and inferential statistics.

RESULT

The pre test knowledge mean score was 14.1, and post test mean score was 25.5. It was increased after administration of Information Education and Communication. Paried 't' test was used to evaluate the effectiveness of Information Education and Communication on the level of knowledge regarding prevention of urinary tract infection among adolescent girls. The obtained t-value was 27.00, which

was statistically significant at $p<0.05$ level. The age, education of the father, type of family, area of living and previous history has found significant association with level of knowledge regarding prevention of urinary tract infection among adolescent girls.

CONCLUSION

The study concluded that the adolescent girls had inadequate knowledge regarding prevention of urinary tract infection and Information Education and Communication (IEC) was effective in improving the adolescent girls knowledge regarding prevention of urinary tract infection.

Key words

Effectiveness, Adolescent girls, Knowledge, Prevention of urinary tract infection, and Information Education and Communication.

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CHAPTER - I

INTRODUCTION

"Prevention is better than cure"

Background of the study

Adolescence, derived from the latin word 'adolescere' (meaning to grow up) is a transitional stage of physical and psychological development that generally occurs during the period from puberty to legal adulthood (age of majority). Adolescence is regarded as a unique phase of human development. Traditionally adolescence is a period of "stress and storms". A WHO expert committee has considered period of adolescence as between 10 to 20 yrs of age. It is usually associated with the teenage years, but its physical, psychological or cultural expression may begin earlier and end later.

In India, Adolescent girls make 20% of total population and 17.9% of female population. It constitutes about 2.5 billion, one fifth of the world's population, and 1.76 % of population of India. Hence, adolescents form a large section of the population (National Youth policy, 2018).

Urinary tract infection (UTI) commonly affects the adolescent girls because of the onset of menarche, dysfunctional voiding patterns, use of synthetic underwear, tight jeans, and poor hygiene. The infection in the urinary tract will produce the signs and symptoms like fever, dysuria, urgency and suprapubic pressure or discomfort, flank pain, chills, etc. Acute uncomplicated urinary tract infection is more prevalent

among adolescent girls and is the fourth main reason for out-patient visit among this group. It is estimated that 150 million occur yearly on a global basis, resulting in more than six billion dollars in direct health care expenditures. Incidence of urinary tract infection is 34% of adult below 20 years and also 794 per 10,000 adults aged below 20 years have at least one occurrence of urinary tract infection. (David Wilson., 2009)

Urinary tract infection (UTI) defined as significant bacteriuria in the presence of a constellation of symptoms of dysuria (painful urination), increased urinary frequency and urgency, suprapubic discomfort and costovertebral angle tenderness. It is a common cause of infections, particularly among young girls. They develop a urinary tract infection before the age of 24 years. (Nicolle L.E., 2008)

It is characterized by bacterial invasion and multiplication involving the kidneys and urinary tract pathways. Approximately 60% of females will have at least one episode of urinary tract infection during their lives.

Urinary tract infections are relatively common in girls when compared with boys. The major reason for this difference is probably anatomic. The female urethra is only 3 to 4 cm in length and lies in close proximity to the vagina, anus, and rectum, all of which are areas colonized with Enterobacteriaceae. (Larry., 2001)

According to the National Health and Nutrition Examination Survey (NHNES, 2014), Urinary tract infection is 13,320 per 1,00,000 adolescents per year and it has also been estimated that at least one-third of all school students in India are diagnosed with urinary tract infection by the time they reach 10-19 age. Silent urinary tract

infection may occur among girls due to inadequate intake of water and infrequent passage of urine. The main reason for this is unhygienic toilets and improper teaching regarding menstrual hygiene. Dehydration can be a cause of urinary tract infection. Urinary tract infection may progress to renal damage, renal failure and sepsis. Early recognition and prompt treatment helps to prevent occurrence of recurrent urinary tract infection and possibility of complications.

The National Family Health Survey (2000) reported on prevalence of urinary tract Infection in India among adolescent girls as 16.6% and the risk of bacteraemia developing in adolescent girls as 5-10%. Common risk factors for adolescent urinary tract infection are poor hygiene, dysfunctional voiding patterns, use of synthetic underwear and panties, tight jeans, wet bathing suits, allergens/irritants, famine hygiene sprays, bubble baths, perfumed toilet paper, sanitary napkins and soaps may aid in the development of cystitis. Lack of adequate knowledge and practices related to maintenances of health leads to various genitourinary infections during adolescence. Thus, it is very essential to initiate health intervention measures for the prevention and control of urinary tract infection among adolescents.

In1997, National Ambulatory Medical Survey reported that Among adolescent girls, lower urinary tract infections are very common. At least one episode of urinary tract infection occurs in nearly 5-6% of girls during 1st, grade to graduation from high school compared to boys; the recurrence rate is 50% greater in girls. Due to urinary tract infection, every year nearly 6-7million school girls visit physician. The lifetime incidence of urinary tract infection in US is found to be one in every 5 women 11 million per year takes medicine for urinary tract infection.

The urinary tract, from the kidney to the urethral meatus, is normally sterile and resistant to bacterial colonization despite frequent contamination of the distal urethra with colonic bacteria. The major defense against urinary tract infection is complete emptying of the bladder during urination. Abnormality of any of these mechanisms predisposes to urinary tract infection. The most common pathogens are Escherichia coli with specific attachment factors for transitional epithelium of the bladder and ureters. Escherichia coli causes more than 80-90% in females. Occult bacteremia is the presence of bacteria in the bloodstream of febrile young children. Diagnosis is by blood culture and exclusion of infection. Treatment is with antibiotics, either in the hospital or as outpatients. (Geoffrey A. Weinbrey., 1899)

Proper preventive measures like maintain of good hygienic measures during menstruation, intake of more amount of water and cranberry juice, proper bladder emptying practices etc. It will help to reduce the incidence of urinary tract infection. (Thara Xavier.,2010)

NEED FOR THE STUDY

The prevalence of urinary tract infection is higher during adolescence, a period in which hormonal changes favour vaginal colonization by nephritogenic strains of bacteria, which can migrate to the peri-urethral area and cause urinary tract infection. An estimated 73% of adolescent girls report having had a urinary tract infection at some point in their lives.

World health organization (2018) reported that 700 million adolescent girls in worldwide among those 500 million in developing countries, one fifth of world's population accounts for 62% of population and in Tamilnadu its 59.9%.

In United states, Healthcare Research and Quality., (2017) reported an increased incidence of 400000 hospitalizations for urinary tract infection.

National Kidney Foundation., (2009) - In New York, Urinary tract infections affect nearly 10 million young females each year. 80% will have recurrence and about 80-90% of urinary tract infection are caused by bacteria.

S.N.Chugh., (1993) Adolescents constitutes about one fifth of the population. Urinary tract infection is highly prevalent among adolescent girls with 3-5% of incident rate.

Naire MK, Bhave YS., (2002) Silent urinary tract infection may occur among school girls which is due to inadequate intake of water and infrequent passage of urine. The main reason for this is unhygienic school toilets and improper teaching regarding menstrual hygiene. Dehydration can cause urinary tract infection.

National Family Health Survey., (1998) a one-year morbidity survey was conducted among 796 patients aged 16 years and above with an objective to find the prevalence of urinary tract disease in general practice. Urine bacteriological and microscopic study revealed that 54% females had symptoms of urinary tract infection and prevalence rate were 6 to 7 times higher in females than males. Urinary tract

infection in females without symptoms of bacteriuria was peak in the month of February. The prevalence of recurrent or chronic urinary tract infection were found five in 1000 women per year.

The usual causes of UTI among females are bacteria that live on the skin near the rectum or the vagina. Waiting too long time to urinate can cause the bladder muscle to stretch too much that, not all the urine is pushed out, which increase the risk for urinary tract infections. Urinary tract infection in childhood can also put a person at risk for urinary tract infection in adolescent age.

Naire and Bhave., (2002) Most of the school girls do not drink water adequately or pass urine frequently at school, contributing towards urinary tract infection. It may be because of school toilets with poor hygiene and girls in many residential institution are not taught menstrual hygiene.

Kentaclauta., (2007) 80% of urinary tract infection in females are due to E-coli that live on the skin near the anus or vagina and can spread and enter the urinary tract through the urethra. Bacteria can enter the urinary tract when women wipe from back to front after using the bathroom.

Martin Odoki et al., (2017) A cross sectional study was conducted on the Prevalence of Bacterial Urinary Tract Infection and Associated Factors among patients attending Hospitals in Bushenyi District, Uganda. A total of 267, clean catch midstream urine samples were collected aseptically and analyzed by using standard methods. The study revealed that in 86/267 (32.2%), Escherichia coli was the most

prevalent bacterial uropathogen with 36/86 (41.9%) followed by Staphylococcus aureus 27/86 (31.4%), Klebsiella pneumonia 10/86 (11.6%), Klebsiella oxytoca 6/86 (7.0%), Proteus mirabilis 3/86 (3.5%), and Proteus Vulgaris 1/86 (1.2%) in the adolescent age group of 10-19 years. In this study, the prevalence of urinary tract infection from patients attending hospitals in Bushenyi District, Uganda. Appropriate measures may help to reduce urinary tract infection due to these associated factors and routine checkups.

Kripa C K et.al., (2016) A study was conducted as a non-experimental descriptive study to assess the knowledge on prevention of urinary tract infection among adolescent girls in a selected nursing college. Sample size for the present study consists of 30 adolescent girls from the Aswini College of Nursing, Thrissur, Kerala. Probability random sampling technique was adopted for the selection of sample. A standardized structured questionnaire was used to assess the socio-demographic data and knowledge level among adolescent girls. The present study revealed that out of 30 samples, 93% have average knowledge, 7% have inadequate knowledge and none have adequate knowledge. This study concluded by stating the need to educate adolescent girls in the college to appropriate knowledge regarding the prevention of urinary tract infection.

Information education and communication is the process of learning that empowers people to make decisions modify behaviors and change social conditions. It mainly aims to increase awareness, change attitudes and bring about a change in specific behavior. Information Education and Communication helps to provide

information that is relevant, appealing, uniform simple in content and language, and accurate information.

Nurses play an important role in health promotion is which providing health education becomes the foremost step. Information Education and Communication, is an important tool in health education.

Most of the adolescent are not aware of the prevention of urinary tract infection. So, the researcher felt the need to emphasize on this aspect, through the Information Education and Communication (IEC) and assess the effectiveness of information education and communication is terms of the knowledge score.

STATEMENT OF THE PROBLEM

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3. To determine the association between post test level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

HYPOTHESES

H_1- There is a significant difference between mean pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.

H_2- There is a significant association between post-test score on level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

OPERATIONAL DEFINITIONS

EVALUATE

Evaluate means to determine the importance or worth

In this study, it refers to the level of the knowledge regarding prevention of urinary tract infection.

EFFECTIVENESS

Effectiveness means the desired result, produced by an action.

In this study, it also refers to the gain in knowledge after administration of information communication and education on prevention of urinary tract infection among adolescent girls.

INFORMATION EDUCATION AND COMMUNICATION

It is an approach which attempts to change or reinforce a set of behavior in a target audience regarding a specific problem in a predefined period of time.

In this study, a system developed instruction, designed to provide information with the use of liquefied crystal display (LCD) regarding prevention of urinary tract infection among adolescent girls.

KNOWLEDGE

It refers to facts and information acquired by the adolescent girls.

In this study the correct response of adolescent girls to the questionnaire regarding prevention of urinary tract infection as measured by the scores.

URINARY TRACT INFECTION

It refers to bacterial invasion and multiplication involving the kidney and urinary tract pathway. The presence symptoms of dysuria, odor and suprapubic discomfort.

PREVENTION

It refers to how to avoid urinary tract infection.

In this study providing an information education and communication which helps the girls from growth of micro organisms in the urinary tract.

ADOLESCENTS GIRLS

It refers to females between the age group of 10-20 years.

In this study, adolescent girls between the age group of 13-16 years who are studying in government girl's higher secondary school at Valparai.

ASSUMPTIONS

- Most adolescent girls have inadequate knowledge regarding prevention of Urinary tract infection.
- Information education and communication on prevention of urinary tract infection will help adolescent girls to improve their knowledge.

DELIMITATIONS

- The adolescent girls studying in a selected school.
- Adolescent girls between the age group of 13-16 years.
- Sample size is limited to 150.

PROJECTED OUTCOMES

- The study will help adolescent girls to assess the knowledge regarding urinary tract infection.
- The study will help adolescent girls to identify the effectiveness of information education and communication on prevention of urinary tract infection.
- The study findings will help to create awareness in adolescent girls about the prevention of urinary tract infection.

CHAPTER II

REVIEW OF LITERATURE

Review of literature is an important process in the development of any research project. It helps the researcher to analyze what is known about the topic and to describe the methods of inquiry used in understanding of the problem. Keeping these aspects in mind, the researches of document, information and studies-related knowledge among adolescents are made.

According to the Polit and Hungler (2004) review of literature is a critical summary of research on a topic of interest, often prepared to put a research on a topic of interest, often prepared to put a research problem in context.

According to Cutler, a research literature review is a written summary of the state of existing knowledge on a research problem.

An extensive review of literature was done and it was organized under the following headings:

- ✓ Studies related to urinary tract infection among adolescent girls.
- ✓ Studies related to knowledge regarding prevention of urinary tract infection among adolescent girls.
- ✓ Studies related to effectiveness of information education and communication among adolescent girls.

STUDIES RELATED TO URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS

Shubha Srivastava, (2018) Conducted an analytical study on urinary tract infection among 25 adolescent girls in Bhopal. The samples age between 10 to 19 years. The study revealed that most common symptoms were frequency, pain and burning micturition, which were present in 60% adolescent girls. Inadequate water intake, holding urine for long duration and poor menstrual hygiene were the important etiological factors. This study concluded that there is need to educate regarding good hydration and hygiene among adolescent girls.

Simin Sadeghi et.al., (2018) Conducted a descriptive study on urinary infection recurrence and its related factors in urinary tract infection among 270 children aged two month to 15 years in Zahedan City, Iran. Data was collected by convenient sampling technique. The study revealed that 76.7% children had recurrent urinary tract infections and 83.3% with first urinary tract infection had positive result for Escherichia coli.

Pritam Pardeshi, (2018) Conducted a retrospective study on Prevalence of Urinary Tract Infections and Current Scenario of Antibiotic Susceptibility Pattern of Bacteria Causing Urinary Tract Infection among 1741 adolescent girls in Mumbai. Over-all prevalence of urinary tract infection was 33.54%, of which 66.78% were females. E.Coli 53.77% was the commonest isolate causing urinary tract infection followed by Klebsiella pneumonia 27.40%. The most effective antimicrobial agents in our study were meropenem. Gentamycin, Nitrofurantoin co-trimoxazole whereas higher resistance was observed. This study concluded that as drug resistance among

bacterial pathogens varies with time, regular surveillance and monitoring is necessary for giving updated information to physicians for most effective empirical treatment of urinary tract infection.

Martin Odoki et.al., (2017) Conducted a cross sectional study on Prevalence of Bacterial Urinary Tract Infection and Associated Factors among patients attending Hospitals in Bushenyi District, Uganda. A total of 267, clean catch midstream urine samples were collected aseptically and analyzed by using standard methods. The study revealed that in 86/267 (32.2%), Escherichia coli was the most prevalent bacterial uropathogen with 36/86 (41.9%) followed by Staphylococcus aureus 27/86 (31.4%), Klebsiella pneumonia 10/86 (11.6%), Klebsiella oxytoca 6/86 (7.0%), Proteus mirabilis 3/86 (3.5%), and Proteus Vulgaris 1/86 (1.2%) in the adolescent age group of 10-19 years. In this study, the prevalence of urinary tract infection from patients attending hospitals in Bushenyi District, Uganda. Appropriate measures may help to reduce urinary tract infection due to these associated factors and routine checkups.

Muthulakshmi M, Gopalakrishnan S, (2017) Conducted a cross sectional descriptive study in Kancheepuram regarding urinary tract infection among females of reproductive age group. The study groups were 250 females of reproductive age group (15-44 years). Data was collected using a structured interview questionnaire. The study revealed that 20.4% prevalence of urinary tract infection. There was a strong statistical association between levels of education of the study subjects. This study concluded that urinary tract infection is a serious public health problem if untreated. Early diagnosis and prompt treatment will prevent the chances of

developing further complications of urinary tract infection and will help to reduce the sufferings of the patient, hospital-stay and economic loss.

Rima H. Hanna-Wakim et.al., (2015) Conducted a retrospective study on Epidemiology and Characteristics of Urinary Tract Infections in Children and Adolescents at Lebanese Medical Center. The study included 675 cases less than 18 years. Of the 584 cases caused by Escherichia Coli 91 cases 15.5% were found to be Extended spectrum beta lactamase (ESBL)-producing organisms. This study concluded that recognition of risk factors for infection with Extended spectrum beta lactamase (ESBL)-producing organisms and the observation of increasing overall resistance to antibiotic use in children and adolescents.

Lata B.Galate., Sonal Bangde, (2015) Conducted a study on Urinary Tract Infection of Microbiological Profile and its Antibiotic Susceptibility Pattern in Visakhapattanam. Out of a total of 732 patients, isolates were detected in 314 (42.89%) samples. Out of these, 64.01% were female. Most common microbial agent isolated was Escherichia coli (E.coli). Escherichia coli was highly resistant to Ciprofloxacin to Amikacin and Ceftriaxone. This study concluded that pattern of resistance to commonly used antibiotics for treating urinary tract infection alerts us against indiscriminate usage of antibiotics.

Sabita Rezwana Rahman et.al., (2014) Conducted a study on occurrence of urinary tract infection in 462 adolescent and adult women in Dhaka city, Bangladesh. The study revealed that bacteriuria was present in 9% of the subjects. A higher incidence 16.8% of urinary tract infection, and Escherichia coli (E.coli) 69%,

Streptococcus aureus 2%, Klebsiella pneumonia 2%. The Escherichia coli isolates showed complete resistance to commonly used drugs, and 58% of these isolates were multidrug resistant. This study suggests regular monitoring of drug resistance phenotype of the urinary tract infection pathogens to reduce the morbidity of female urinary tract infection patients and offer better treatment strategy in the health sectors.

Manikandan C, Amsath A, (2013) Conducted a cross sectional design study on Prevalence and Distribution of Bacteria and Fungi Isolated from 2400 Patients with Urinary Tract Infection in Pattukkotai, Tamilnadu. In this study, patients with clinical symptoms and suspected urinary tract infection were examined. Clean-catch midstream urine was collected. Overall prevalence of urinary tract infection in females was 69.8%. High rate of urinary tract infection was observed in females. The study revealed that 11-20 years age group had 10.8% urinary tract infection. This study concluded that Gram-negative bacilli were responsible for urinary tract infection. The common isolated bacteria from urinary tract infections was E.Coli. It provides valuable laboratory data to monitor the status of uropathogens and to improve treatment recommendations in a specific geographical region.

Lundblad B, Hellstrom LA, (2011) Conducted a cross sectional study on school children perceptions of school toilets in Sweden. 385 Swedish school children aged 6-16 years selected for the study. Data collection was done using a semi-structured questionnaire. The result showed that children aged 13-16 years had negative perceptions. Twenty-five percent of older children reported never using the school toilet to urinate and 80 percent never used it to defecate. Perceptions of sight, smell and emotional constraints hindered children from using school toilets. This

study concluded that the need for cleanliness and awareness about good toilet habits is essential for adolescents.

Ahmed S.M., Avasarala A.K, (2009) Conducted a cross sectional study on urinary tract infection among 181 adolescent girls (10-19 years) in rural Karimnagar district, Andhra Pradesh. A predesigned, structured interview-based questionnaire was used which contained question related to puberty, hygiene and urinary tract infection. Overall prevalence of urinary tract infection among adolescent girls is 12.7%. Significantly more 7.7% girls having symptoms of vaginal discharge were suffering from urinary tract infection. This study concluded that there was the need to initate health intervention measures for the prevention and control of urinary tract infection among females.

Aiyegoro O. A.et.al., (2007) Conducted a study to determine the incidence of urinary tract infection among 301 children and adolescents in Nigeria. The study revealed that bacteria isolates were identified based on colony morphology characteristics, gram stain reaction and biochemical tests and result of this study shows that 36 (11.96%) of the studies had urinary tract infection. A total of 36 bacterial isolates were obtained. Escherichia coli constituted the predominant organism and was responsible for 52.77%, Klebsiella pneumonia 25%, and Pseudomonas aeruginosa 2.7%. The Escherichia coli isolates showed complete resistance to commonly used drugs, and 60% of these isolates were multidrug resistant. This study suggests regular monitoring of drug resistence phenotype of the urinary tract infection pathogens to reduce the morbidity of adolescents urinary tract infection and offer better treatment strategy in the health sectors.

Eliane B.M. Guidoni., Julio Toporovski, (2001) Conducted a study on urinary tract infection in 100 adolescents at the Pediatric Nephrology Department of Hospital Santa Casa de Sao Paulo. The study revealed that lower urinary tract infection, hematuria and dysuria were the most frequent symptoms observed in infection caused by staphylococcus saprophyticus. Some asymptomatic cases were observed. The infection may be associated with adverse effects of maternal and fetal health during pregnancy. This study concluded that review of the diagnosis, etiology, treatment and complications associated with urinary tract infections in adolescents was needed.

STUDIES RELATED TO KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION

Goutham Y, Manjuladevi K, (2018) Conducted a cross-sectional study on assessment of knowledge, attitude, and practice of urinary tract infection among 100 pharmacy student in Pallavaram, Chennai. The study revealed that score on knowledge 7.02, attitude 6.68 and practice 6.72 out of 24 pharmacist and internship students. This study concluded that knowledge upgradation is a pre-requisite. Academic involving faculty from universities and customer educating concerts by pharmaceutical marketing teams educating them would improve their current level of knowledge and makes them competent enough for the public health care service.

Arunachalam et.al., (2017) Conducted a cross sectional design study about urinary tract infection among 31 patients attending Sree Mookambika Hospital in Kanyakumari. . Data was collected by systematic random sampling technique. The study revealed that 32.3% had recurrent urinary tract infection and 35.5% have poor

knowledge, 42% have moderate knowledge and 19.5% have a good knowledge about urinary tract infection. This study concluded that educating drinking plenty of water and cleanliness.

Kripa C K et.al., (2016) Conducted a non-experimental descriptive study to assess the knowledge on prevention of urinary tract infection among 30 adolescent girls in Aswini College of Nursing, Thrissur, Kerala. Probability random sampling technique was adapted for the selection of sample. A standardized structured questionnaire was used to assess the socio demographic data and knowledge level among adolescent girls. The study revealed that out of 30 samples, 93% have average knowledge, 7% have inadequate knowledge and no one has adequate knowledge. This study concluded the need to educate adolescent girls in the college regarding the prevention of urinary tract infection

Boklia R, (2016) conducted a descriptive study to assess the knowledge of urinary tract infection amongst 307 school-going adolescents in Ahmadabad, India. The samples age between 12-16 years old. The study revealed that 202(65.79%) had no knowledge of urinary tract infection whereas 105 (34.21%) due to previous history, had knowledge of urinary tract infection. The questions concerning hygiene, it was discovered that 121(39.4%) wash their vaginal area after urination whereas 186(60.58%) are not washing. Further 270(87.94%) girls change sanitary pads more than one time in a day during menstruation. It also found that 156(50.81%) girls consult physician if urinary tract infection symptoms occur. The study concluded that there are still major gaps in the knowledge about urinary tract infection among many

of the school-going adolescent girls. So, there is need for educational talks periodically to school-going adolescent girls.

Kaur Ramandeep, Basti Sheikh, Jalandhar, (2015) Conducted a pre experimental study – one group pre-test and post-test design to assess the effectiveness of structured teaching programme on knowledge regarding prevention of urinary tract infection among 110 first year nursing students in semi-urban Jalandhar, Punjab. Data was collected by using a self-structured knowledge questionnaire. The study revealed that pre-test mean knowledge score was 15.9 out of 30 whereas post-test mean knowledge score was 24.7 out of 30. This study concluded that structured teaching programme regarding prevention of urinary tract infection had significant impact on knowledge of first year nursing students.

Sarbrinder Kaur, (2015) Conducted a descriptive study to assess knowledge regarding prevalence and risk factors of urinary tract infection among 54 nursing students at Amristar. Data was collected by Self Structured questionnaire and convenient sampling. The study revealed that the majority of nursing students 83.3% have moderate knowledge, 9.3% of students have inadequate knowledge and 7.7% of students have adequate knowledge. This study concluded the need to educate adolescent girls in selected college to impart appropriate knowledge regarding the prevention of urinary tract infection.

S.Arundathi et.al., (2014) Conducted a pre-experimental one group pre-test and post-test design study to assess the Effectiveness of Self Instructional Module Regarding Prevention of Urinary Tract Infection among 30 adolescent Girls (13-18

years) in Selected Colleges At Nellore. The study revealed that 26(86.6%) had inadequate knowledge, 4(13.4%) had moderately adequate knowledge, and 2(6.7%) had adequate knowledge. This study concluded that self -instructional module is effective in enhancing the knowledge among adolescent girls.

Sheela pavithran et.al., (2014) Conducted a quantitative pre-test and post test control group design study to assess the effectiveness of structured teaching program on knowledge regarding prevention of urinary tract infection among 119 adolescent girls in Kochi. Subjects were selected by one stage cluster sampling. Data were collected using structured questionnaire. The study result showed statistically significant difference in gain knowledge regarding prevention of urinary tract infection in the experimental group who had attended the structured teaching program. This study recommended the need and importance of implementing various teaching programs for adolescent girls. It would help to improve knowledge and follow healthy practices.

STUDIES RELATED TO EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION

Sharmin Sherasiya et.al., (2018) Conducted a pre-experimental one group pre-test post test design study to assess the outcome of Information Education Communication on Knowledge regarding Child Abuse among 60 Adolescent girls in Selected Schools at Gujarat. The data was collected through structured knowledge questionnaire level of knowledge assess among adolescent girls. The study revealed that majority are having inadequate level of knowledge (53%), than (28%) having moderately adequate knowledge, and only (19%) as having adequate level of

knowledge in pre test and in post test, majority have got moderately adequately knowledge (50%), than (37%) got adequate level of knowledge and only (13%) got inadequate knowledge. The obtained 't' value was 10.72 which was significant at 0.05 level. The finding of the study revealed that Information Education Communication helps in increasing the level of knowledge among all the demographic variable only education of mother and father, occupation of mother and father and source of information was significant at 0.05 level.

Hepsiba Beula Rajam T, (2016) Conducted a quantitative study to evaluate the effectiveness of Information Education and Communication on knowledge regarding management of dialysis among 60 patients with chronic renal failure at Theni. The study revealed that 25 had inadequate knowledge and 5 had moderately adequate knowledge in pre test. In post test 28 had adequate knowledge and 2 had moderately adequate knowledge. The study concluded that information education and communication was effective in improving knowledge.

Joslin Jose, (2015) Conducted a quantitative study to evaluate the effectiveness of Information Education and Communication on knowledge regarding assertive behavior for child abuse among 60 children in Thrissur. The study revealed that the pre test knowledge lower than post test knowledge. The study concluded that Information Education and Communication was effective in improving the knowledge of children regarding assertive behavior for child abuse.

Gupta R.K, Ghimire H.P, Panta P.P, (2013) conducted a cross sectional study on anemia in adolescents female and the effect of information education and

communication in school of central Kathmandu valley in Nepal. It constitutes 10-19 yrs of age. Out of 204, 72(35.4%) had anemia. 40(34.2%) had anemia in the age group of 13-15 yrs, followed by 19 in age group 10-12 yrs and mild anemia was found in the age group 16-19 yrs. Mean Hb before Information education and communication was 12.26 (SD 1.43) and after Information education and communication was 12.81 (SD 1.05). The range was 20 to 41.18%. Information education and communication was 0.719, which is statistically significant with positive correlation.

CONCEPTUAL FRAMEWORK

Conceptual framework refers to interrelated concepts or abstract those are assembled together in same rational scheme by virtue of their relevance to a common theme (Polit and Hungler 1999).

The conceptual framework for this study was developed by applying Ludwig von Bertalanffy (1968) general system theory. According to the general system theory a system consists of a set of interacting components. There are two types of general system i.e. closed and open.

A closed system does not exchange every, matter or information with its environment. If receives no input from the environment and gives no outputs to the environments. In an open system, energy, matter or information move into and out of the system.

All living system such as plants, animals, people, families and communities are open system. Open system consists of the input, throughput and output process. According to theorist view the information, matter and energy that the system receives, transforms the output in a process called as throughput and releases information, matter and energy as output in the environment output that returns to the system as input is called feedback which may be positive, negative or neutral.

In this present study the investigator considered the school as open system which possesses input, throughput, output and feedback.

INPUT

In this study, the investigator consider that the input is the assessment of adolescent girls demographic variables such as Age, religion, education of the mother, education of the father, type of family, area of living, source of information, previous history of urinary tract infection to evaluate the knowledge regarding prevention of urinary tract infection.

THROUGHPUT

Regards with throughput the investigator gave information education and communication on prevention of urinary tract infection such as Introduction, definition, causes, signs &symptoms, investigation, treatment, preventive measures of urinary tract infection, followup care.

OUTPUT

Considering the output the investigator evaluate the knowledge after a week or month of educational intervention. By creating such awareness through education it will help the girls to take some measures to prevent urinary tract infection during adolescent.

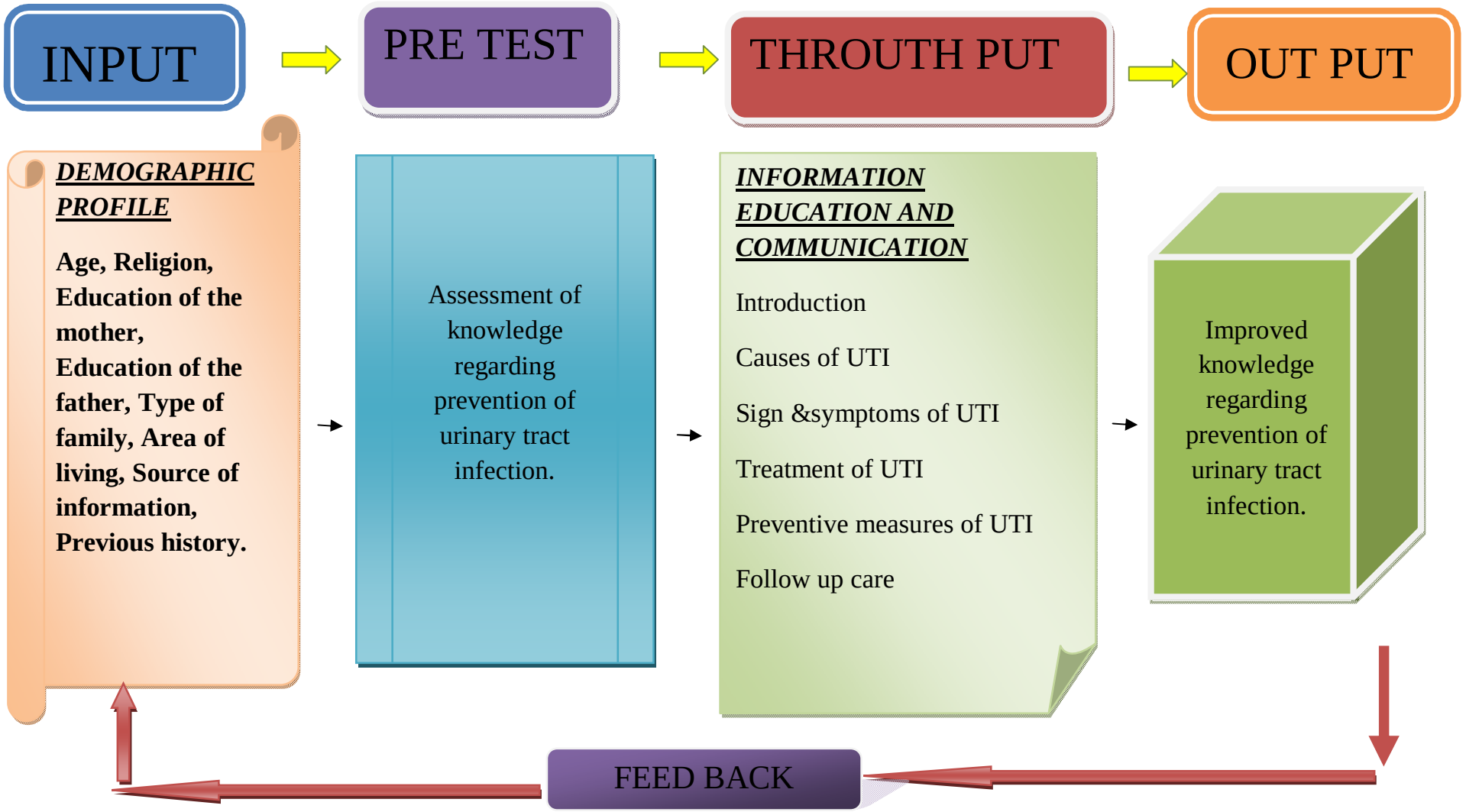

Figure 1 Conceptual Framework- Modified General System Theory Ludwig von Bertalanffy (1968)

CHAPTER III

METHODOLOGY

RESEARCH METHODOLOGY

According to Nancy Burns (2004) research methodology involves systematic procedures starting from initial identification of the problems to it final conclusion. This chapter deals with the methodology adopted for the study of the level of knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.

It deals with the research approach, research design, setting of the study, population criteria for selection of samples, sample size, sampling techniques, description of tools, scoring procedures, data collection procedures, plan for data analysis and protection of human rights and discipline procedure used to acquire information.

RESEARCH APPROACH

Polit and Hungler (2004) defined research approach as, “A general setup orderly discipline in procedure used to acquire information”.

In this study quantitative approach was used to determine the effectiveness of Information Education and Communication (IEC) on awareness about knowledge regarding prevention of urinary tract infection among adolescent girls.

RESEARCH DESIGN

Polit and Hungler (2004) defined research design as "overall plan for addressing research questions.

The researcher adopted in this study one group pre-test post-test quasi experimental design.

Diagrammatic representation of the design:

PRE TEST	INTERVENTION	POST TEST
O_1	X	O_2

(O_2.O_1)- Effectiveness of Information Education and Communication (IEC) on awareness about knowledge regarding prevention of Urinary tract infection.

KEYS

O_1: Pre-test level of knowledge regarding prevention of urinary tract infection among adolescent girls.

X: Plan on information communication and education on prevention urinary tract infection among adolescent girls.

O_2: Post- test (6^{th} day) level of knowledge regarding prevention urinary tract infection among adolescent girls.

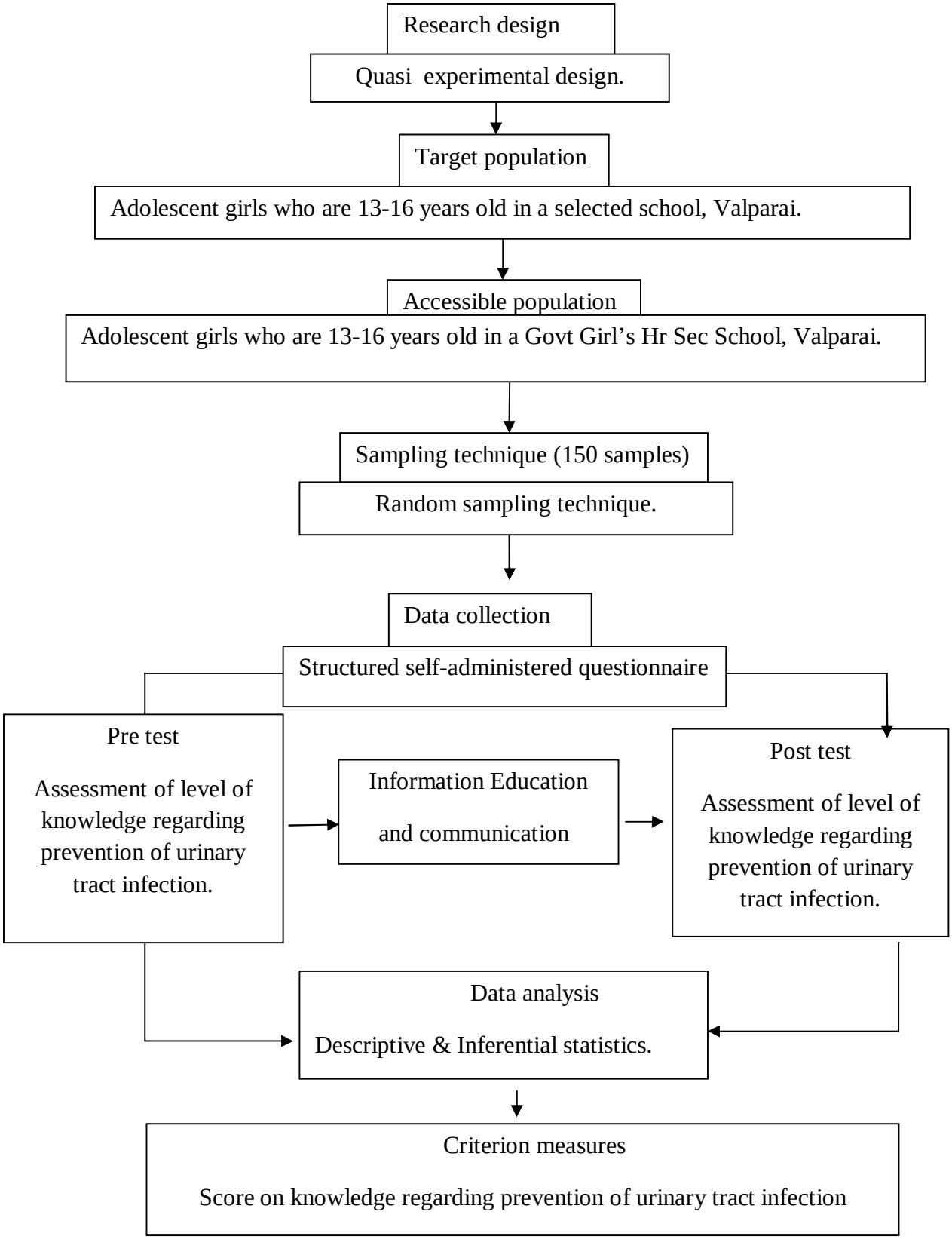

Figure 2 The Schematic Representation Of Research Methodology

VARIABLES

According to Denise F. Polit (2011) Variable is defined as “An attribute that varies, that is, takes on different values”. Variables are measurable characteristics of a concept and consists of logical group of attributes.

DEPENDENT VARIABLES

According to Denise F. Polit (2011) Dependent variables is defined as “the variable hypothesized to depend on or be caused by another variable of interest”.

In this study, the dependent variable is the level of knowledge regarding prevention of urinary tract infection.

INDEPENDENT VARIABLES

According to Denise F. Polit (2011) Independent variables is defined as “The variable that is believed to cause or influence the dependent variable”

In this study, the independent variable is the information education and communication regarding prevention of urinary tract infection.

SETTING OF THE STUDY

Polit and Hungler (2005) stated that “The physical location and condition in which the data collection has taken place in a study is the seeking of the study”.

The study was conducted among adolescent girls in government girls' higher secondary school at Valparai. In that school, approximately 1500-2000 are girls studying per year. The school is selected on the basis of:

Geographical proximity, Feasibility of conducting the study, Availability of the sample etc.

POPULATION

Polit and Hungler (2005), "A population is the entire aggregation of cases in which a researcher is interested".

TARGET POPULATION

The sample for the present study was adolescents girls in the age group of 13-16 years in a selected school, Valparai.

ACCESSIBLE POPULATION

The study was adolescent girls who are 13-16 years in Government Girl's Higher Secondary School at Valparai.

SAMPLING TECHNIQUE

According to Burns and Groove (2005) "Sampling technique is the process of selecting a portion of the population to represent the entire population".

The sampling technique used for the study randomized sampling technique. It is found to be appropriate and the samples were selected using lottery method.

SAMPLE

Polit and Hungler (2005) stated that samples consist of a sub-set of population selected to participate in a research study.

In this study, samples were selected from adolescent girls from Government girl's higher secondary school at Valparai.

SAMPLE SIZE

According to Denise F. Polit (2011) defined as, "Number of people to participate in a study".

The total sample size was 150 adolescent girls selected based on inclusion and exclusion criteria.

CRITERIA FOR SELECTION

INCLUSION CRITERIA

- Adolescent girls those who are studying 13-16 years old.
- Adolescent girls who can speak English and Tamil.
- Adolescent girls who are willing to participate in the study.
- Adolescent girls who are present during the time of data collection

EXCLUSION CRITERIA

- Adolescent girls who were not interested to participate in the study.
- Adolescent girls who were not available at the time of the study.
- Adolescent girls who had not attained menarche.

DEVELOPMENT OF THE TOOL

Treece and Treece (1986) emphasized that the instruments selected in research should as far as possible be the vehicle that could best obtain data for drawing conclusion.

The research instrument was developed based on information gathered from the relevant extensive review of literature, suggestions and expert opinion. It has two sections- Demographic variables and the structured self-administered knowledge questionnaire. The tool was prepared by referring the literature on the topic, suggestion and guidance from the expert in English. Then, the tool was translated into Tamil language and submitted to the Tamil expert for validation. After that, the tool was used to evaluate the level of awareness regarding knowledge regarding prevention of urinary tract infection among adolescent girls.

DESCRIPTION OF THE TOOL

The tool consists of two Sections.

SECTION I

It consists of demographic data which includes age, religion, education of the mother, education of the father, type of family, area of living, source of information and previous history of urinary tract infection.

SECTION II

It consist of 30 multiple choice structured self-administered questionnaire to assess the knowledge on prevention of urinary tract infection. The question was

related to urinary tract, urinary tract infection, causes, signs & symptoms, investigations, treatment and prevention of urinary tract infection.

SCORING PROCEDURE

For every correct answer was scored ‘1’ mark and wrong answer ‘0’. The maximum possible score was ‘30’ and minimum possible score was ‘0’. Based on the score, level of knowledge is graded into 3 categories. They are adequate, moderate and inadequate.

- 0-7 = Inadequate knowledge
- 8-22 = Moderately Adequate knowledge
- 23-30 = Adequate knowledge

INFORMATION EDUCATION AND COMMUNICATION

According to Burns and Groove (2005) “Information education and communication defined as an approach which attempts to change or reinforce a set of behavior in a target audience regarding a specific problem in a predefined period of time”.

It was developed by review of literature and by obtaining expert’s opinion. The Information Education and Communication (IEC) held for 45 minute duration comprised the overall objectives, specific objectives, content, teacher-learner activities, summary and conclusion. It is comprised of the following aspects related to urinary tract infection.

- Definition of Urinary tract infection
- Causes of Urinary tract infection
- Signs and symptoms of Urinary tract infection
- Treatment of Urinary tract infection
- Prevention of Urinary tract infection
- Complication of Urinary tract infection

The method of Information Education and Communication (IEC) was given by lecture cum discussion in Tamil language by Liquefied Crystal Display (LCD) projector using Audio Visual aids.

CONTENT VALIDITY

According to Burns and Groove. (2005) “The validity of an instrument is the determination of the extent to which the instrument reflects the abstract Construct that is being examined”.

The tool was given to the expert from medical surgical nursing department for obtaining validity. Based on expert’s evaluation of the tool regarding the adequacy of content and the sequence in framing the questions and their valid suggestions, reframing of the tool was done.

RELIABILITY

According to De vos, (1998) “Reliability refers to the accuracy and consistency of a measuring instrument”. An instrument can be considered reliable if it yields similar results on separate occasions.

The reliability co-efficient was calculated by test re-test method and co-efficient correlation score was 0.77 and found highly reliable.

PILOT STUDY

According to Denise F. Polit (2011) defined as, “a small-scale version or trial run done, in preparation of a major study”, in order to check the feasibility and practicability.

Pilot study was conducted among 30 adolescent girls in government school Sirugundra at Valparai. Study period was 2 weeks, after obtaining the written consent, the pre-test level of knowledge regarding prevention of urinary tract infection among adolescent girls was assessed by administering structured self-administered questionnaire followed which the Information Education and Communication was given for 45 minutes on day 2. In 5 days of interval, again structured self administered knowledge questionnaire was administered to assess the post-test level of knowledge on the 6^{th}day. The result revealed that setting, tool and samples are feasible to conduct the main study.

DATA COLLECTION PROCEDURE

According to Polit and Hungler,(1999) “Data collection is the gathering of information needed to address a research problem”.

Before proceeding with the study, formal permission was taken from the respected authorities of Government Girl’s Higher Secondary School, Valparai. The objectives of the study will be explained to the principal of Government Girl’s Higher Secondary School, Valparai. We gave necessary information about the study to the subjects, after obtaining the willingness to participate in the study, we obtained consent from the participants and the questionnaire was distributed to the subjects. We asked them to answer it and truly explained that the responses would be kept confidential. The subjects were given 30 minutes to complete the questionnaire. After that, a information education and communication programme was given by (Liquefied Crystal Display) in Tamil language, following which doubts were clarified. The post-test was conducted to evaluate the knowledge of all the participants on the 6^{th} day of the intervention by giving same structured knowledge questionnaire.

PLAN FOR DATA ANALYSIS

The following methods were planned to analyse the data:

- The demographic variables were analyzed by using descriptive measures (frequency and percentage).
- The relationship between the knowledge and selected demographic variables were analyzed by using chi square.

- Mean, Standard deviation, Mean deviation were used to evaluate the effectiveness of information education and communication programme.
- Effectiveness of the study measured by “t” test.

PROTECTION ON HUMAN RIGHTS

The study was conducted after the approval of respected authorities of Government Girl’s Higher Secondary School, Valparai. The nature and purpose of the study was explained to the subjects. The anonymity of the sample was maintained throughout the period of the study.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the data collected from adolescent girls in a school at Valparai.

The prime concern of analysis was to incorporate the collected data of analysis into an interpretable form, so that the relation of the research problems can be studied and verified.

SECTION I : Data on the frequency and percentage distribution of selected demographic variables among adolescent girls.

SECTION II : Data on level of knowledge regarding prevention of urinary tract infection among adolescent girls.

SECTION III : Data on effectiveness of information education communication on knowledge regarding prevention of urinary tract infection among adolescent girls.

SECTION IV : Data on association between the level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

SECTION I: DATA ON THE FREQUENCY AND PERCENTAGE DISTRIBUTION OF SELECTED DEMOGRAPHIC VARIABLES AMONG ADOLESCENT GIRLS.

Table : 1

n=150

S.No	Demographic variables	Frequency (f)	Percentage (%)
1.	Age		
	a. 13 years	29	19.3
	b. 14 years	35	23.3
	c. 15 years	50	33.3
	d. 16 years	36	24
2.	Religion		
	a. Hindu	106	70.7
	b. Christian	28	18.7
	c. Muslim	16	10.6
3.	Education of the mother		
	a. No formal education	17	11.3
	b. Primary school	42	28
	c. Middle school	43	28.7
	d. Higher secondary school	34	22.6
	e. Graduate or equivalent	14	9.3

4.	Education of the father		
	a. No formal education	16	10.7
	b. Primary school	27	18
	c. Middle school	44	29.3
	d. Higher secondary school	43	28.7
	e. Graduate or equivalent	20	13.3
5.	Type of family		
	a. Nuclear family	87	58
	b. Joint family	41	27.3
	c. Extended family	22	14.7
6.	Area of living		
	a. Rural	114	76
	b. Urban	36	24
7.	You got information about urinary tract infection		
	a. Yes	45	30
	b. No	105	70
8.	Previous history of urinary tract infection		
	a. Yes	51	34
	b. No	99	66

Table : 1 shows that the frequency and distribution of adolescent girls in their selected demographic variables on prevention of urinary tract infection.

With regard to age among the 29(19.3%) of the adolescent girls was 13 years old, 35(23.3%) of the adolescent girls was 14 years old, 50(33.3%) of the adolescent girls was 15 years old, 36(24%) of the adolescent girls were 16 years old.

Regarding religion among the 106(70.7%) of the adolescent girls were Hindus, 28(18.7%) of the adolescent girls were Christians, 16(10.6%) of the adolescent girls were Muslims.

With regard to education among the 17(11.3%) of the adolescent girls mothers had no formal education, 42(28%) of the adolescent girls mothers had studied primary school level, 43(28.7%) of the adolescent girls mothers had studied middle school level, 34(22.6%) of the adolescent girls mothers had studied higher secondary level, 14(9.3%) of the adolescent girls mothers had studied graduate.

With regard to education among the 16(10.7%) of the adolescent girls fathers had no formal education, 27(18%) of the adolescent girl's fathers had primary school level, 44(29.3) of the adolescent girl's fathers had middle school level, 43(28.7%) of the adolescent girl's fathers had higher secondary school level, 20(13.3%) of the adolescent girl's fathers had studied graduate.

Regarding the type of family among the 87(58%) of the adolescent girls were living in nuclear family, 41(27.3%) of the adolescent girls were living in joint family, 22(14.7%) of the adolescent girls were living in extended family.

With regard to area of living among the 114(76%) of the adolescent girls were living in rural area, 36(24%) of the adolescent girls were living in urban area.

Regarding the Source of information among the 45(30%) of the adolescent girls got information, 105(70%) of the adolescent girls had no information about urinary tract infection.

With regard to Previous history of urinary tract infection among the 51(34%) of the adolescent girls were having history of urinary tract infection, 99(66%) of the adolescent girls do not have a history of urinary tract infection.

SECTION II : DATA ON LEVEL OF KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS.

Table : 2

n=150

S.No	Level of knowledge	One group Pre test Post test			
		Pre test		Post test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Inadequate knowledge (0-7) score	35	23.3	0	0
2.	Moderately adequate knowledge (8-22) score	101	67.3	26	17.3
3.	Adequate knowledge (23-30) score	14	9.3	124	82.7

Table 2 shows that the frequency and distribution of pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls.

Among 150 adolescent girls 35(23.3%) had inadequate knowledge, 101(67.3%) had moderately adequate knowledge, 14(9.3%) had adequate knowledge in pre test and none of them had inadequate knowledge, 26(17.3%) of them had moderately adequate knowledge, and majority 124(82.7%) of them had adequate knowledge regarding prevention of urinary tract infection.

LEVEL OF KNOWLEDGE

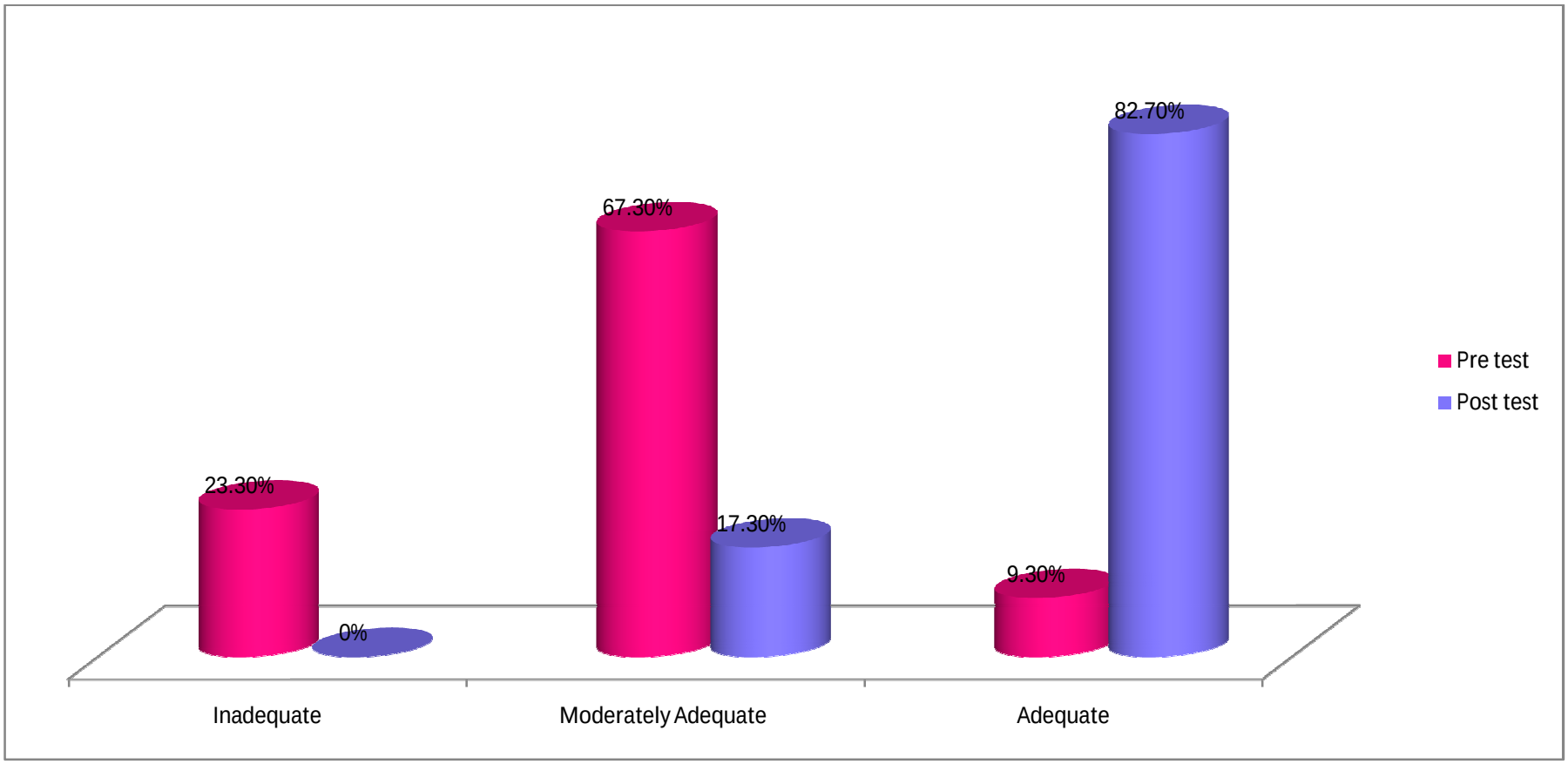

FIGURE 3 Percentage distribution on pre test and post test score of knowledge regarding prevention of urinary tract infection among adolescent girls.

SECTION III : DATA ON EFFECTIVENESS OF INFORMATION EDUCATION COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS.

Table: 3

n=150

S.No	Level of Knowledge	Mean	Standard deviation	Mean deviation	t- value
1.	Pre test	14.1	5.62	11.4	*27.00
2.	Post test	25.5	3.20		

*Significant at 0.05 level

Table :3 Shows that the mean, standard deviation, mean deviation and t-value of pre test and post test level of knowledge regarding prevention of urinary tract infection among adolescent girls.

Mean score of knowledge in pre test was 14.1 and post test was 25.5, standard deviation is pre test was 5.62 and post test was 3.20 and mean deviation score was 11.4. The obtained 't'-value is 27.00. There was significant at $p<0.05$ level. It is inferred that there was difference between the pre test and post test knowledge regarding prevention of urinary tract infection. Hence that stated hypotheses (H_1) accepted.

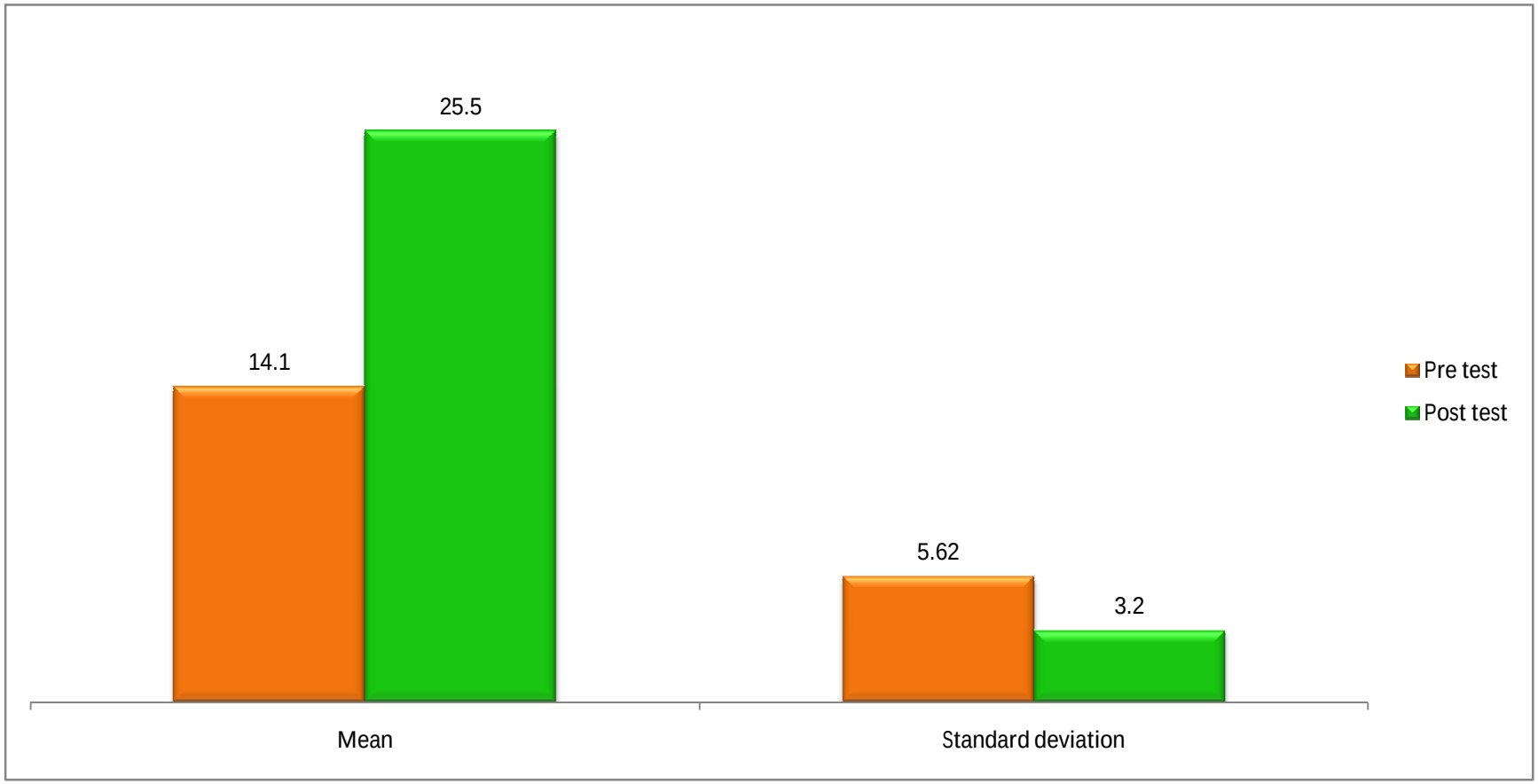

FIGURE: 4 Mean, Standard deviation of pre test and post test on level of knowledge regarding prevention of urinary tract infection among adolescent girls.

SECTION IV : DATA ON ASSOCIATION BETWEEN THE LEVEL OF KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table : 4

n=150

S.No	Demographic Variables	Moderately Adequate knowledge		Adequate knowledge		Chisquare χ^2
		(f)	(%)	(f)	(%)	
1.	Age					
	a.13 years	5	3.3	24	16	
	b.14 years	14	9.4	21	14	18.849^{*S}
	c.15 years	6	4	44	29.3	df=3
	d.16 years	1	0.7	35	23.4	
2.	Religion					
	a. Hindu	17	11.3	89	59.3	
	b. Christian	5	3.3	23	15.3	0.789^{NS}
	c. Muslim	4	2.7	12	8	df=2
3.	Education of the mother					
	a. No formal education	3	2	14	9.3	
	b. Primary school	6	4	36	24	4.271^{NS}
	c. Middle school	10	6.7	33	22	df=4
	d. Higher Sec School	3	2	31	20.7	
	e. Graduate	4	2.7	10	6.6	

4.	Education of the father					
	a. No formal education	5	3.3	11	7.3	
	b. Primary school	4	2.7	23	15.3	11.867^{*S}
	c. Middle school	1	0.7	43	28.7	df=4
	d. Higher sec school	11	7.3	32	21.3	
	e. Graduate	5	3.3	15	10	
5.	Type of family					
	a. Nuclear family	10	6.7	77	51.3	10.622^{*S}
	b. Joint family	7	4.7	34	22.7	df=2
	c. Extended family	9	6	13	8.6	
6.	Area of living					
	a. Rural	15	10	99	66	5.017^{*S}
	b. Urban	11	7.3	25	16.7	df=2
7.	Information about urinary tract infection					
	a. Yes	12	8	33	22	3.907^{NS}
	b. No	14	9.3	91	60.7	df=1
8.	Previous history of urinary tract infection					
	a. Yes	19	12.7	32	21.3	21.401^{*S}
	b. No	7	4.7	92	61.3	df=1

NS- Not significant at 0.05 level *S-Significant at 0.05 level

Table: 4 shows that the frequency, percentage and chisquare distribution of post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls.

Among age of 13 years, 5(3.3%) adolescent girls had moderately adequate knowledge, 24(16%) adolescent girls had adequate knowledge, among 14 years of age group, 14(9.4%) adolescent girls had moderately adequate knowledge, 21(14%) adolescent girls had adequate knowledge, among 15 years of age group, 6(4%) adolescent girls had moderately adequate knowledge, 44(29.3%) adolescent girls had adequate knowledge, among 16 years of age group, 1(0.7%) adolescent girls had moderately adequate knowledge, and 35(23.4%) adolescent girls had adequate knowledge. The obtained chi-square value is 18.849 and it is significant at $p<0.05$ level and thus hypotheses is accepted.

With regard to religion, adolescent girls who belongs to Hindu 17(11.3%) of them had moderately adequate knowledge, 89(59.3%) adolescent girls had adequate knowledge, among adolescent girls who belongs to Christian 5(3.3%) of them had moderately adequate knowledge, 23(15.3%) adolescent girls had adequate knowledge, among adolescent girls who belongs to Muslim 4(2.7%) of them had moderately adequate knowledge, and 12(8%) adolescent girls had adequate knowledge. The obtained chi-square value is 0.789 and there is not significant at $p<0.05$ level and thus hypotheses is not accepted.

With regards to education of the adolescent girls mothers with no formal education 3(2%) of them had moderately adequate knowledge, 14(9.3%) of them had

adequate knowledge, among adolescent girls mothers with primary school 6(4%) of them had moderately adequate knowledge, 36(24%) of them had adequate knowledge, among adolescent girls mothers with middle school 10(6.7%) of them had moderately adequate knowledge, 33(22%) of them had adequate knowledge, among adolescent girls mothers with higher secondary school 3(2%) of them had moderately adequate knowledge, 31(20.7%) of them had adequate knowledge, among adolescent girls mothers with graduate 4(2.7%) of them had moderately adequate knowledge, and 10(6.7%) of them had adequate knowledge. The obtained chi-square value is 4.271 and it is not significant at $p<0.05$ level and thus hypotheses is not accepted.

With regards to education of the adolescent girls fathers with no formal education 5(3.3%) of them had moderately adequate knowledge, 11(7.3%) of them had adequate knowledge, among adolescent girls fathers with primary school 4(2.7%) of them had moderately adequate knowledge, 23(15.3%) of them had adequate knowledge, among adolescent girls fathers with middle school 1(0.7%) of them had moderately adequate knowledge, 43(28.7%) of them had adequate knowledge, among adolescent girls fathers with higher secondary school 11(7.3%) of them had moderately adequate knowledge, 32(21.3%) of them had adequate knowledge, among adolescent girls fathers with graduate 5(3.3%) of them had moderately adequate knowledge, and 15(10%) of them had adequate knowledge. The obtained chi-square value is 11.867 and it was significant at $p<0.05$ level and thus hypotheses is accepted.

With regard to type of family, adolescent girls residing in nuclear family 10(6.7%) of them had moderately adequate knowledge, 77(51.3%) of them had adequate knowledge, among adolescent girls residing in joint family 7(4.7%) of them

had moderately adequate knowledge, 34(22.7%) of them had adequate knowledge, among adolescent girls residing in extended family 9(6%) of them had moderately adequate knowledge, and 13(8.6%) of them had adequate knowledge. The obtained chi-square value is 10.622 and it was significant at $p<0.05$ level and thus hypotheses is accepted.

Regarding adolescent girls living in rural area 15(10%) of them had moderately adequate knowledge, 99(66%) of them had adequate knowledge, among adolescent girls living in urban area 11(7.3%) of them had moderately adequate knowledge, and 25(16.7%) of them had adequate knowledge. The obtained chi-square value is 5.017 and it was significant at $p<0.05$ level and thus hypotheses is accepted.

Among got information, 12(8%) adolescent girls had moderately adequate knowledge, 33(22%) adolescent girls had adequate knowledge, about no information of 14(9.3%) adolescent girls had moderately adequate knowledge, and 91(60.7%) adolescent girls had adequate knowledge. The obtained chi-square value is 3.907 and it was not significant at $p<0.05$ level and thus hypotheses is not accepted.

Among previous history of urinary tract infection, 19(12.7%) adolescent girls had moderately adequate knowledge, 32(21.3%) adolescent girls had adequate knowledge, no history of urinary tract infection, 7(4.7%) adolescent girls had moderately adequate knowledge, and 92(61.3%) adolescent girls had adequate knowledge. The obtained chi-square value is 21.401 and it was significant at $p<0.05$ level and thus hypotheses is accepted.

CHAPTER –V

DISCUSSION

The basic aim of current study is to evaluate the effectiveness of information education and communication on level of knowledge regarding prevention of urinary tract infection among adolescent girls in a Government Girls Higher Secondary School at valparai. The present study was conducted by using quasi-experimental design. The samples were selected by randomized sampling technique. The sample size was 150 adolescent girls.

The structured self-administered knowledge questionnaire was administered to assess the level of knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school.

The responses of adolescent girls were analyzed through descriptive statistics (Frequency, Percentage, Mean, Standard deviation, Mean deviation) and inferential statistics (Paired ‘t’ test and Chi-square). Discussion on the findings was arranged based on the objectives of the study.

The first objective of the study was to assess the pre-test and post-test knowledge regarding prevention of urinary tract infection among adolescent girl.

Among 150 adolescent girls, 35(23.3%) adolescent girls had inadequate knowledge, 101(67.3%) adolescent girls had moderately adequate knowledge, and 14(9.3%) adolescent girls had adequate knowledge in pre test. Among 150 adolescent

girls, 26(17.3%) adolescent girls had moderately adequate knowledge, and majority 124(82.7%) adolescent girls had adequate knowledge and none of them had inadequate knowledge during post-test.

The study findings was supported by Sarbrinder Kaur., (2015) who conducted a descriptive study to assess knowledge regarding urinary tract infection at Amritsar. Data was collected by convenient sampling. The study revealed that the majority of nursing students 83.3% have moderate knowledge, 9.3% of students have inadequate knowledge and 7.7% of students have adequate knowledge. This study concluded that researcher being in nursing profession felt the need to educate adolescent girls in a selected college to impart appropriate knowledge regarding the prevention of urinary tract infection.

The second objective of the study was to assess the effectiveness of information education and communication (IEC) on prevention of urinary tract infection among adolescent girls.

The present study findings revealed that pre-test knowledge mean score was 14.1, standard deviation 5.62, and post-test knowledge mean score was 25.5 ,standard deviation score 3.20, mean deviation 11.4 and t value was 27.00. It was statistically significant at $p<0.05$ level.

Thus, the finding revealed that there was a significant difference between the pre-test and post-test score of knowledge regarding prevention of urinary tract infection among adolescent girls. So, it clearly shows that the Information Education

and Communication (IEC) was effective in improving the knowledge amongst adolescent girls regarding prevention of urinary tract infection.

The study finding was consistent with the study findings of similar study conducted by S.Arundathi et.al.,(2016) who conducted a pre-experimental one group pre-test and post-test design study to assess the Effectiveness of Information Education and Communication on knowledge Regarding Prevention of Urinary Tract Infection among 30 adolescent Girls in Selected Colleges At Nellore. The study found that the mean pre-test knowledge 11.66, standard deviation 3.27 and post-test knowledge 16.83, standard deviation 2.58 and 't' value was13.517 which was statistically significant at $p<0.05$ level. The study concluded that information education and communication is effective in enhancing the knowledge among adolescent girls.

The study finding were similar to the finding of Sharmin Sherasiya et.al., (2018) who conducted a pre-experimental one group pre-test post test design study to assess the outcome of Information Education Communication on Knowledge regarding Child Abuse among 60 Adolescent girls in Selected Schools at Gujarat. The data was collected through structured knowledge questionnaire level of knowledge assess among adolescent girls. The study revealed that majority are having inadequate level of knowledge (53%), than (28%) having moderately adequate knowledge, and only (19%) as having adequate level of knowledge in pre test and in post test, majority have got moderately adequately knowledge (50%), than (37%) got adequate level of knowledge and only (13%) got inadequate knowledge. The obtained 't' value was 10.72 which was significant at 0.05 level. The finding of the study revealed that

Information Education Communication helps in increasing the level of knowledge among all the demographic variable only education of mother and father, occupation of mother and father and source of information was significant at 0.05 level.

The third objective of the study was to determine the association between post-test knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

The study finding revealed that in post-test, the obtained chi square value for selected demographic variables (age, religion, education of the father, education of the mother, type of family, area of living, source of information ,previous history of urinary tract infection). Among that age, education of the father, type of family, area of living and previous history have significant association between the knowledge regarding prevention of urinary tract infection among adolescent girls.

The study finding was consistent with the study findings of a similar study by Sheela pavithran et.al., (2014) who conducted a study using quantitative pre test-post test control group design in Kochi to assess the effectiveness of structured teaching program on knowledge regarding prevention of urinary tract infection among 119 adolescent girls. Subjects were selected by one stage cluster sampling. Data was collected by using structured questionnaire. The study result showed knowledge was significantly associated with selected demographic variables like frequency of voiding during school hours, voiding in unclean toilet, taking bath during menstruation and cleaning genitalia during menstruation. This study recommended the need and importance of implementing various teaching programs for adolescent girls

CHAPTER VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter deals with the summary, conclusions, limitations and recommendations of the study. Further, it includes implications for nursing practice, nursing education, nursing research and nursing administration.

SUMMARY

The present study was to evaluate the effectiveness of information education and communication on knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.

The objectives of the study were,

- To assess the pre-test and post-test knowledge regarding prevention of urinary tract infection among adolescent girls.
- To evaluate the effectiveness of Information Education and Communication on the prevention of urinary tract infection among adolescent girls.
- To determine the association between the level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

A quasi-experimental design was chosen for this study. The randomized sampling technique was used to select the samples based on inclusion and exclusion criteria. Sample size was 150.

Structured self administered knowledge questionnaire was used to collect the data from research subjects. It consisted of two sections.

Section I - Demographic variables of adolescent girls.

Section II - Structured self administered knowledge questionnaire to assess the level of knowledge regarding prevention of urinary tract infection.

The content validity was done by experts in the field of nursing. Data collection was done by using the structured self administered knowledge questionnaire, followed by that Information Education and Communication (IEC) on knowledge regarding prevention of urinary tract infection was given for 45 minutes on the same day. After an interval of 5 days, again a structured self administered knowledge questionnaire was administered to assess the post-test level of knowledge on the 6^{th} day.

The hypotheses for the study were

- H_1- There is a significant difference between mean pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls in a selected school at Valparai.
- H_2-There is a significant association between post-test score on level of knowledge regarding prevention of urinary tract infection among adolescent girls with their selected demographic variables.

The collected data was analyzed by using descriptive statistics (mean, frequency, percentage and standard deviation) and inferential statistics (paired't' test and chi square test and results were drawn.

MAJOR FINDINGS OF THE STUDY

- Among the 150 adolescent girls, the majority of the samples 50(33.3%) were in the age group of 15 years,106(70.7%) of the samples were in the religion of Hindu, samples mother 43(28.7%) were completed middle school, samples father 44(29.3%) were completed middle school, half proportion of samples 87(58%) were in nuclear family, half proportion of samples 114(76%) in living rural area, most of the samples 105(70%) were not got information, and higher proportion of samples 99(66%) have not previous history of urinary tract infection.

- In pre-test knowledge regarding prevention of urinary tract infection among 150 adolescent girls 35(23.3%) had inadequate knowledge, 101(67.3%) had moderately adequate knowledge, 14(9.3%) had adequate knowledge. Study finding revealed that majority of adolescent girls had moderate knowledge regarding prevention of urinary tract infection. So, there is need of educational programme to the adolescent girls regarding prevention of urinary tract infection.

- In post-test level of knowledge regarding prevention of urinary tract infection among 150 adolescent girls, majority of 124(82.7%) had adequate knowledge and 26(17.3%) had moderately adequate knowledge. Thus, it revealed that

there was a significant difference between the pre-test and post-test score of knowledge regarding prevention of urinary tract infection among adolescent girls.

- With regard to effectiveness of Information Education and Communication (IEC) on knowledge regarding prevention of urinary tract infection the pre-test knowledge mean score was 14.1 and standard deviation 5.62. The post-test mean score was 25.5 and standard deviation 3.2 and which increased after Information Education and Communication intervened the calculated mean deviation was 11.4 and 't' value was 27.00, which was statistically significant at $p<0.05$ level. Thus, it was inferred that the IEC progamme was effective in improving adolescent girls' knowledge regarding prevention of urinary tract infection.

- With regard to the association between the pre-test and post-test level of knowledge regarding prevention of urinary tract infection among adolescent girls with their demographic variables. The study finding revealed that there was significant association between the level of knowledge and age, education of the father, type of family, area of living and previous history. These have a significant association between the knowledge regarding prevention of urinary tract infection among adolescent girls.

CONCLUSION

The main conclusion drawn from the present study was that most of the adolescent girls had inadequate level of knowledge regarding prevention of urinary

tract infection. After information education and communication, it was found that they had significantly improved in level of knowledge regarding prevention of urinary tract infection among adolescent girls. Samples became familiar and found themselves comfortable and also expressed satisfaction. The study revealed that through Information Education and Communication (IEC) they know about what is urinary tract infection and also this information can be communicated to others, to prevent urinary tract infection in the family and community. Thus, it was concluded that, Information Education and Communication on prevention of urinary tract infection among adolescent girls was effective to improve the level of knowledge.

NURSING IMPLICATIONS

According to Tolsme, (1995) the section of the research report that focuses on the nursing implications usually included specific suggestions for nursing practice, nursing education, nursing research and nursing administration.

Nursing implications usually includes specific suggestions for nursing practice, nursing education, nursing research and nursing administration. Nursing implications in this study are enlisted below

NURSING PRACTICE

Nurses can learn to assess knowledge regarding prevention of urinary tract infection by using structured self administered questionnaire on adolescent girls and magnify the importance to plan out the programme depending on the needs of adolescent girls in various settings.

- Nurses can learn accurate assessment of knowledge regarding prevention of urinary tract infection by using structured questionnaire among adolescent girls and magnify the importance to plan out the programmes depending upon the need of the girls in various setting.
- Nurses play an important role in providing primary care for urinary tract infection and also giving health education regarding prevention.
- The impact of formulating and implementing steps on primary prevention of urinary tract infection by nursing personnel.
- The nurse motivates the adolescent girls to utilize the health care services to improve health.

NURSING EDUCATION

- Educate the nursing personnel to update their knowledge and skills in assessing the adolescent girls.
- Prepare the nursing students to develop the skills in identifying the symptoms and signs of urinary tract infection among adolescent girls.
- Nurses have to update their knowledge regarding prevention of urinary tract infection by participating and listening to programmes in various settings.

NURSING ADMINISTRATION

- Nurse administration has to make provision to promote health education with Audio Visual aids regarding prevention of urinary tract infection.
- In-service education program and continuing education programme can be conducted for the nurses on this specialization with urinary tract infection to update their knowledge.

- The nurse administration should provide necessary facilities to equip the staff to focus on preventive, promotive and curative aspect of care regarding prevention of urinary tract infection.
- Nurse administrator should motivate the nurses to conduct the mass education programme in the school and community area regarding prevention of urinary tract infection.
- Collaborate with hospital administration in policies and employ the specially trained nurses who needed knowledge for the prevention of urinary tract infection.

NURSING RESEARCH

- Adds to the research review about the importance of prevention for urinary tract infection among adolescent girls.
- Conduct further research in a different setting by using the above findings as a baseline data to expand the scientific body of professional knowledge.
- Disseminated the finding through journals and publications.
- The findings will help in the practice aspect to expand the role of nurse.

LIMITATIONS

- The study was confined to a specific geographical area only by selecting a Government Girls Higher Secondary School, Valparai, which imposes limits to any large generalization.
- The study was limited only to adolescent girls and the groups were small which resulted in reduced power in statistical analysis.

- The data was collected from 150 samples to find out the awareness. It could be done on more samples for the larger generalization.

RECOMMENDATIONS

- A similar study can be conducted for a larger group of adolescent girls.
- A similar study can be conducted with a true experimental design.
- The same study can be conducted in a different setting such as a hospital.
- A comparative study can be done regarding prevention of urinary tract infection between girls from a private and a government school.

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APPENDIX - A

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
Tamil Nadu Nurses and Midwives Council, Chennai.

Madukkarai Market Road,
P.B. No. 4431
Industrial Estate Post,
COIMBATORE - 641 021.
Phone : 0422 - 6562705, 2672705, 2675641

Cell : 94421 75641, 98435 24219
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.org

Ref. No.

Date : .....

APPENDIX – A

PERMISSION FOR CONDUCTING THE STUDY

March 1, 2019

To

THE HEAD MASTER,
GOVT. GIRL'S HR SEC SCHOOL,
VALPARAI.
COIMBATORE

Respected Sir,

Mrs. Suba.G., is a student of II Year M.Sc.,(Nursing) in Annai Meenakshi College of Nursing, Coimbatore. She is conducting a study **" TO EVALUATE THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS IN SELECTED SCHOOL AT COIMBATORE."**

This is for her research work to be submitted to the Tamil Nadu Dr. M.G. R. Medical University in Partial fulfillment of the university requirement for the award of M.Sc., (Nursing) Degree.

The student will furnish project personally. The student will follow the norms, and abide to the rules and regulations of the institution. Hence I request you to kindly permit her to collect the data of the students.

Thanking you,

Yours faithfully,

Forwarded

1/3/2019

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

04/03/19
தலைமையாசிரியர்
அரசு மகளிர் மேல் நிலைப்பள்ளி
வால்பாறை- 642127.
கோவை மாவட்டம்

அரசு மகளிர் மேனிலைப்பள்ளி,
வால்பாறை-642 127.

APPENDIX - B

ANNAI MEENAKSHI COLLEGE OF NURSING

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Tamil Nadu Nurses and Midwives Council, Chennai.

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Industrial Estate Post,
COIMBATORE - 641 021.
Phone : 0422 - 6562705, 2672705, 2675641

Cell : 94421 75641, 98435 24219
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.org

Ref. No.

APPENDIX – A

Date : .....

PERMISSION FOR CONDUCTING THE STUDY

March 1, 2019

To

THE HEAD MASTER,
P.U.M.S. MIDDLE SCHOOL,
SIRUKUNDRA L.D,
VALPARAI.

Respected Sir,

Mrs. Suba.G., is a student of II Year M.Sc.,(Nursing) in Annai Meenakshi College of Nursing, Coimbatore. She is conducting a study **" TO EVALUATE THE EFFECTIVENESS OF INFORMATION EDUCATION AND COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS IN SELECTED SCHOOL AT COIMBATORE."**

This is for her research work to be submitted to the Tamil Nadu Dr. M.G. R. Medical University in Partial fulfillment of the university requirement for the award of M.Sc., (Nursing) Degree.

The student will furnish project personally. The student will follow the norms, and abide to the rules and regulations of the institution. Hence I request you to kindly permit her to collect the data of the students.

Thanking you,

Yours faithfully,

Forwarded.

1/3/2019

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

N. Senthamil Selvi
தலைமை ஆசிரியர்
ஊராட்சி ஒன்றிய நடுநிலைப்பள்ளி,
சிறுகுன்றா - எல் டி - 642 153.

APPENDIX – C

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Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
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Tamil Nadu Nurses and Midwives Council, Chennai.

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Cell : 94421 75641, 98435 24219

Phone : 0422 - 6562705, 2672705, 2675641
Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

Requisition for Content Validity

Ref. No.

Date : .....

From
Mrs. Suba.G.,
II - Year M.Sc.,(N)
Annai Meenakshi College of Nursing,
Coimbatore – 21.

Through
The Principal,
Annai Meenakshi College of Nursing,
Coimbatore – 21.

To

Respected Sir/Madam,

Sub: Requisition for expert opinion and suggestion for content validity of the tool – Reg.

I am a student of M.Sc., Nursing II year in Annai Meenakshi College of Nursing, Coimbatore, affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai. As a partial fulfillment of the M.Sc., Nursing programme, I am conducting a research titled as entitled **"A study to assess the effectiveness of information education and communication on knowledge regarding prevention of urinary tract infection among adolescent's girls in selected school students at coimbatore."**

I am hereby enclosing the following:

1. Statement and objectives of the study
2. Hypothesis
3. Methodology
4. Tool
5. Lesson Plan
6. Content Validity certificate.

Herewith I am submitting the developed tool for content validity and for your opinion and possible suggestion. I will be grateful to you and request you to return the same to the undersigned at the earliest possible.

Thanking you,

Forwarded

Yours faithfully,

Place: Coimbatore
Date:

PRINCIPAL
Annai Meenakshi College of Nursing
COIMBATORE-641 021.

APPENDIX – D

ANNAI MEENAKSHI COLLEGE OF NURSING

Affiliated with the Tamil Nadu Dr. M.G.R Medical University, Chennai.
Approved by the Indian Nursing Council, New Delhi &
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Fax : 0422 - 2676016
Email : ceandct@gmail.com
Website : www.annaimeenakshi.in

Ref. No.

Date : .....

Certificate of Validation

This is to certify that the tools developed by **Mrs. Suba.G., M.Sc (N) II - Year** student of **Annai Meenakshi College of Nursing**, Coimbatore, Tamil Nadu (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai) is validated by undersigned and can proceed with this tool and conduct the main study for dissertation entitled **" A study to assess the effectiveness of information education and communication on knowledge regarding prevention of urinary tract infection among adolescents girls in selected school students at coimbatore."**

Place: Coimbatore

Signature

Date:

APPENDIX – E

LIST OF EXPERTS

CONSULTED FOR CONTENT VALIDITY

Dr.CELESTINE RAJ MANOHAR, MD.,

Professor and Unit Chief of General

Medicine,

Karpagam Faculty of Science and Research,

Coimbatore.

Prof. Mrs. ARUL MALAR. M.Sc., (N)

Principal,

Ellen College of Nursing,

Coimbatore.

Prof. Mrs. NAGARATHINAM. R,M.Sc.,(N)

Associate Professor,

Revathi College of Nursing,

Tirupur.

Prof. Mrs. ANGAIYARKANNAI. M. Sc.,

(N)

Professor,

Nightingale Institute of Nursing Education.

Coimbatore.

Prof. Mrs. KIRUTHIKA DEVI.S.P.

M.Sc.,(N)

Associate professor,

Texcity College of Nursing,

Coimbatore.

Prof. Mrs. RAJA NANDHINI. M.Sc., (N)

Assistant Professor,

Revathi College of Nursing,

Tirupur.

Prof. Mrs. S.BALAMANI. M .Sc ., (N)

Vice- Principal,

Govt. College of Nursing,

Daman,

UT of Daman and Diu.

APPENDIX – F

CONSENT FORM

Respected Adolescent girls,

Good Morning, I am Mrs.Suba.G doing second year M.Sc Nursing in Annai Meenakshi College of Nursing at Coimbatore. I am doing a research on Effectiveness of Information Education and Communication on knowledge regarding prevention of urinary tract infection among Adolescent girls. I kindly request your co-operation to complete my research. I assure you that own get any harm due to my research.

I am Ms …….. has come to know about the Information Education and Communication on knowledge regarding prevention of urinary tract infection. Hereby I consent to participate in the educational programme.

Signature

Place:

Date:

APPENDIX – G

TOOLS

Instruction

Dear participants,

Section I contains questions regarding demographic variables. Please mark (✓) in appropriate space. Section II contains questioner for assessing the knowledge regarding prevention of Urinary tract infection. participant has to read each one by one question carefully and selected the most appropriate statement by tick (✓).

This information will be exclusively used for the purpose of research study and will be kept confidential.

SECTION I

Sample no.....

I. DEMOGRAPHIC PROFILE

1) Age.....

a) 13 years ( )

b) 14 years ( )

c) 15 years ( )

d) 16 years ( )

2) Religion.....

a) Hindu ( )

b) Christian ( )

c) Muslim ( )

3) Education of the mother.....

a) No formal education ( )

b) Primary school (1-5 std) ( )

c) Middle school (6-10 std) ( )

d) Higher secondary school (11-12 std) ( )

e) Graduate or equivalent ( )

4) Education of the father.....

a) No formal education ( )

b) Primary school (1-5 std) ( )

c) Middle school (6-10 std) ( )

d) Higher secondary school (11-12 std) ( )

e) Graduate or equivalent ( )

5) Type of family

a) Nuclear family ( )

b) Joint family ( )

c) Extended family ( )

6) Area of living

a) Rural ( )

b) Urban ( )

7) Have you got any information about urinary tract infection earlier

a) Yes ( )

b) No ( )

If yes, specify appropriate source ……

8) Do you have any previous history of urinary tract infection

a) Yes ( )

b) No ( )

If yes, specify details ……..

SECTION –II

Structured self administered questionnaire to assess the knowledge on prevention of urinary tract infection among adolescents

1) The following are the organs of urinary system

a) Lungs, bronchi and bronchioles. ( )

b) Kidneys, ureters, bladder and urethra. ( )

c) Esophagus, stomach, and intestine. ( )

d) Brain and spinal cord. ( )

2) Kidneys are

a) Bean shaped ( )

b) Heart shaped ( )

c) Square shaped ( )

d) Round shaped ( )

3) Kidney helps in

a) Transporting blood to all parts of the body ( )

b) Removing the waste products from the blood ( )

c) Regulating the temperature ( )

d) Exchanging the gases ( )

4) Kidney removes the waste products from blood in the form of

a) Faces ( )

b) Sweat ( )

c) Sputum ( )

d) Urine ( )

5) An expandable muscular sac in the lower abdomen that stores urine is

a) Kidney ( )

b) Ureter ( )

c) Bladder ( )

d) Urethra ( )

6) The opening part which allow the urine to excrete out of the body

a) Kidney ( )

b) Ureter ( )

c) Bladder ( )

d) Urethra ( )

7) The capacity of an adolescent's bladder

a) 600ml to 800ml ( )

b) 1500ml to 1800ml ( )

c) 100ml to 300ml ( )

d) 300ml to 400ml ( )

8) Normal urine output per day

a) 1500ml/day ( )

b) 1000ml/day ( )

c) 400ml/day ( )

d) 200ml/day ( )

9) When the urine is held for long time

a) It leads to growth of micro organism ( )

b) It leads to storage of urine ( )

c) Induce body pain ( )

d) Induce muscle cramping ( )

10) The voiding patency of adolescents during school hours

a) More than 3 times ( )

b) Only once in school ( )

c) Only when urgency ( )

d) Never void ( )

11) Urinary tract infection is most common in girls because

a) Urethra is shorter length ( )

b) Urethra is longer in length ( )

c) Proper voiding ( )

d) Using clean toilet ( )

12) The micro organism which cause of urinary tract infection is

a) Virus ( )

b) Bacteria ( )

c) Fungus ( )

d) Worm ( )

13) The following are the risk factors of urinary tract infection

a) Using clean undergarments daily ( )

b) Drinking plenty of water ( )

c) Poor personal hygiene ( )

d) Voiding in clean toilet ( )

14) Wearing tight fitting under wears will increase the risk of

a) Feeling of comfort ( )

b) Urinary tract infection ( )

c) Sweating ( )

d) Vomiting ( )

15) During a urinary tract infection the urine is

a) White color ( )

b) Cloudy & bad odor ( )

c) Perfume smell ( )

d) Blue color ( )

16) The common symptoms of urinary tract infection is

a) Lower abdominal pain with burning sensation while urination ( )

b) Diarrhea ( )

c) Vomiting ( )

d) Sweating ( )

17) Common test for urinary tract infection

a) Stool test ( )

b) Ultrasound scan ( )

c) Routine blood test ( )

d) Complete urine test and culture ( )

18) The following is the treatment of severe urinary tract infection

a) Consult doctor ( )

b) Hot water application ( )

c) Perineal wash ( )

d) Taking plenty of fluids ( )

19) Urinary tract infection can be prevented by

a) Avoiding vitamin C rich foods ( )

b) Wearing tight pants ( )

c) Taking bath in tub bath ( )

d) Drink 6-8 glasses of water for each day ( )

20) Vitamins which helps to prevent urinary tract infection is

a) Vitamin-A ( )

b) Vitamin-D ( )

c) Vitamin-B ( )

d) Vitamin-C ( )

21) The following are Vitamin-C rich foods that prevents urinary tract infection

a) Orange,Lemon,Papaya ( )

b) Apple,Banana,Biscuits ( )

c) Pomegranate,Beaf,Nuts ( )

d) Yeast,Oils,Seads ( )

22) The following minerals helps to prevent the urinary tract infection is

a) Zinc (meat,shelfish,legumens&eggs) ( )

b) Copper (green leaves,dried fruits,yeast) ( )

c) Magnesium (nuts,seeds,vegetables) ( )

d) Calcium (yogurt,milk,cheese) ( )

23) The following need to be avoided to prevent urinary tract infection

a) Citric fruits ( )

b) Caffeine & Spicy foods ( )

c) 3-4 Slice of raw garlic ( )

d) Plenty of fluids ( )

24) The most recommended inner wear for the adolescents

a) Wool ( )

b) Silk ( )

c) Cotton ( )

d) Leather ( )

25) The correct method of cleaning the genital area

a) Wiping with cloth ( )

b) Washing the area back to front manner ( )

c) Washing the area front to back manner ( )

d) Wiping with paper ( )

26) Washing the perineum from front to back it helps to reduce the

a) Urethral irritation ( )

b) Anal irritation ( )

c) Entry of micro organism from the urethra to anus ( )

d) Entry of micro organism from the anus to urethra ( )

27) The following is a method of bath adviced to prevent urinary tract infection

a) Bathtub ( )

b) Shower bath ( )

c) Well ( )

d) River ( )

28) When should you change your pad at school

a) Never change ( )

b) One time ( )

c) Every 3- 4 hours ( )

d) Every 1 hour ( )

29) In order to prevent urinary tract infection underwear needs to be dried in

a) Inside the bathroom ( )

b) Dry with sunlight ( )

c) Ground ( )

d) Dry with plants ( )

30) Immediate home remedies for urinary tract infection

a) Cold application ( )

b) Take plenty of fluids ( )

c) Hot pad application ( )

d) Perineal washing with hot water ( )

APPENDIX - H

ஒப்புதல் படிவம்

குழந்தைகளுக்கு வணக்கம்,

திருமதி.சுபா ஆகிய நான் அன்னை மீனாட்சி செவிலியர் கல்லூரியில் மேற்படிப்பு (MSc Nursing) படித்துக்கொண்டிருக்கிறேன். நான் இளம்வயதினரிடையே சிறுநீர் பாதை தொற்று நோய் பற்றி கல்வி கொடுப்பதன் மூலம் குழந்தைகளுக்கு செய்தி விழிப்புணர்வு மேம்படும் என்பது பற்றி நான் ஒரு ஆராய்ச்சி செய்கிறேன். இதற்காக நான் தங்களது முழு ஒத்துழைப்பை கேட்டுக் கொள்கிறேன். இதனால் தங்களுக்கு எந்த ஒரு பாதிப்பும் ஏற்படாது என்பதை தெரிவித்து கொள்கிறேன்.

செல்வி .....ஆகிய நான் திருமதி.சுபாவின் வழியாக சிறுநீர் பாதை தொற்று நோய் மற்றும் அதனை தடுக்கும் வழிமுறைகள் பற்றி அறிந்து கொண்டேன். இதனால் நான் சிறுநீர் பாதை தொற்று நோய் வராமல் எனது உடலை பாதுகாத்து கொள்வேன்.

நாள் :

தங்கள் உண்மையுள்ள

இடம் :

APPENDIX – I

வடிவமைக்கப்பட்ட நேர்காணல்

கேள்விகளின் தொகுப்பு

மதிப்பிற்க்குரியோரே

கவனமாக வாசித்த பின் சரியான விடையை (✓) குறிப்பிடவும்

பிரிவு-I

உங்களைப் பற்றிய விவரங்களை தெளிவாக எழுதவும்

1.வயது

அ.13 வயது ( )

ஆ.14 வயது ( )

இ.15 வயது ( )

ஈ.16 வயது ( )

2.மதம்

அ.இந்து ( )

ஆ.கிறிஸ்தவர் ( )

இ.முஸ்லிம் ( )

3.தாயின் கல்வி

அ.படிப்பறிவற்றவர் ( )

ஆ.தொடக்கக் கல்வி ( )

இ.நடுநிலைக் கல்வி ( )

ஈ.உயர்நிலைக் கல்வி ( )

உ.பட்டதாரி ( )

4. தந்தையின் கல்வி

அ.படிப்பறிவற்றவர் ( )

ஆ.தொடக்கக் கல்வி ( )

இ.நடுநிலைக் கல்வி ( )

ஈ.உயர்நிலைக் கல்வி ( )

உ.பட்டதாரி ( )

5.குடும்ப வகை

அ.தனிக்குடும்பம் ( )

ஆ.கூட்டுக்குடும்பம் ( )

6.வாழும் பகுதி

அ.கிராமப்புறம் ( )

ஆ.நகர்ப்புறம் ( )

7.சிறுநீர் பாதைத் தொற்று பற்றி ஏதாவது தகவல் இதற்கு முன்பு அறிந்தது உண்டா?

அ.ஆம் ( )

ஆ.இல்லை ( )

ஆம் என்றால்,..... என குறிப்பிடவும்

8. இதற்கு முன்பு சிறுநீர் தொற்று நோயினால் பாதிப்பு அடைந்தது உண்டா?

அ.ஆம் ( )

ஆ.இல்லை ( )

ஆம் என்றால்,..... என குறிப்பிடவும்

பிரிவு- II

சிறுநீரக பாதை தொற்று நோய் பற்றி இளம்வயதினரிடையே உள்ள புரிதலை மதிப்பிடுவதற்கான கேள்விகள்

1) சிறுநீரக அமைப்பின் உறுப்புகள் பின்வருமாறு

அ.நுரையீரல், மூச்சுக்குழாய் ( )

ஆ.சிறுநீரகம்,சிறுநீரகக்குழாய்,சிறுநீரகப்பை மற்றும் சிறுநீரகப்பாதை ( )

இ.உணவுக்குழல்,இரைப்பை மற்றும் குடல் ( )

ஈ. மூளை மற்றும் தண்டு வடம் ( )

2) சிறுநீரக வடிவம்

அ.அவரை வடிவம் ( )

ஆ.இதய வடிவம் ( )

இ.சதுர வடிவம் ( )

ஈ.வட்ட வடிவம் ( )

3) சிறுநீரகம் எதற்காகப் பயன்படுகிறது

அ.உடலில் உள்ள பாகங்களுக்கு இரத்ததை எடுத்து செல்லுதல் ( )

ஆ.இரத்ததிலிருந்து கழிவுப் பொருட்களை வெளியேற்றுதல் ( )

இ.உடலில் உள்ள வெப்பநிலையை ஒழுங்குபடுத்துதல் ( )

ஈ.வாயு பரிமாற்றம் செய்தல் ( )

4) சிறுநீரகம் கழிவுப்பொருட்களை எவ்வாறு வெளியேற்றுகிறது

அ.மலம் ( )

ஆ.வியர்வை ( )

இ.சளி ( )

ஈ.சிறுநீர் ( )

5) வயிற்றில் உள்ள சிறுநீரை சேமித்து வைக்கும் தசை நார் என்பது

அ.சிறுநீரகம் ( )

ஆ.சிறுநீர்க்குழாய் ( )

இ.சிறுநீர்ப்பை ( )

ஈ.சிறுநீர்ப்பாதை ( )

6) உடலில் உள்ள சிறுநீர் எந்த முகப்பு வழியாக வெளியேறுகிறது

அ.சிறுநீரகம் ( )

ஆ.சிறுநீர்க்குழாய் ( )

இ.சிறுநீர்ப்பை ( )

ஈ.சிறுநீர்ப்பாதை ( )

7) இளம் வயதினர்க்கான சிறுநீர்ப்பையின் கொள்ளளவு

அ.600 மிலி இருந்து 800 மிலி வரை ( )

ஆ.1500 மிலி இருந்து 1800 மிலி வரை ( )

இ.100 மிலி இருந்து 300 மிலி வரை ( )

ஈ.300 மிலி இருந்து 400 மிலி வரை ( )

8) 24 மணி நேரத்திற்க்கான (1 நாள்) சிறுநீர் வெளியேற்றத்தின் அளவு

அ.1500 மிலி ( )

ஆ.1000 மிலி ( )

இ.400 மிலி ( )

ஈ.200 மிலி ( )

9) நீண்ட நேரமாக சிறுநீர் கழிக்காமல் இருப்பதால் ஏற்படும் விளைவு

அ.நுண்ணுயிரி வளர்ச்சிக்கு வழிவகுக்கிறது ( )

ஆ.சிறுநீரை சேகரிக்க வழிவகுக்கிறது ( )

இ.உடல் வலியை ஊக்குவிக்கிறது ( )

ஈ.உடல் சுருக்கத்தை ஊக்குவிக்கிறது ( )

10) பள்ளியில் இருக்கும் போது எத்தனை முறை சிறுநீர் கழிக்க வேண்டும்

அ. மூன்றுக்கும் மேற்பட்ட முறை ( )

ஆ.ஒரு முறை ( )

இ.அவசர காலங்களில் ( )

ஈ.கழிக்க கூடாது ( )

11) பெண்களுக்கு பொதுவாக எதனால் சிறுநீர் பாதை தொற்று நோய் ஏற்படுகிறது

அ.சிறுநீர் குழாய் குறுகிய நீளமாக உள்ளது ( )

ஆ.சிறுநீர் குழாய் நீண்டு நீளமாக உள்ளது ( )

இ.சரியான முறையில் சிறுநீர் கழித்தல் ( )

ஈ.சுத்தமான கழிப்பறையை பயன்படுத்துதல் ( )

12) சிறுநீர் பாதை தொற்று நோய்க்கு காரணமான மைக்ரோ உயிரினம்

அ.வைரஸ் ( )

ஆ.பாக்டீரியா ( )

இ.பூஞ்சை ( )

ஈ.புழு ( )

13) சிறுநீர் பாதை தொற்று நோய்க்கான காரணி

அ.சுத்தமான உள்ளாடைகளை பயன்படுத்துதல் ( )

ஆ.அதிகமாக தண்ணீர் பருகுதல் ( )

இ.சுகாதாரமற்ற முறையில் இருத்தல் ( )

ஈ.சுத்தமான கழிப்பறையை பயன்படுத்துதல் ( )

14) இறுக்கமான முறையில் உள்ளாடைகளை அணிவதால் ஏற்படும் ஆபத்து

அ.நன்றாக உணர்தல் ( )

ஆ.சிறுநீர் பாதை தொற்று நோய் ( )

இ.தலைவலி ( )

ஈ.வாந்தி ( )

15.சிறுநீர் பாதை தொற்றின் போது சிறுநீர்

அ.வெள்ளை நிறம் ( )

ஆ.துறுநாற்றத்துடன் கூடிய பழுப்பு நிறம் ( )

இ.வாசனை திரவியம் மணம் ( )

ஈ.ஊதா நிறம் ( )

16) சிறுநீர் பாதை தொற்று நோய்க்கான அறிகுறிகள்

அ.அடிவயிற்றில் வலி மற்றும் சிறுநீர் கழிக்கும் போது எரிச்சல் ஏற்படுதல் ( )

ஆ.வயிற்று போக்கு ( )

இ. வாந்தி ( )

ஈ.தலைவலி ( )

17) சிறுநீர் பாதை தொற்று நோய்க்கான பரிசோதனை முறை

அ.மலம் பரிசோதனை ( )

ஆ.ஸ்கேன் ( )

இ.இரத்த பரிசோதனை ( )

ஈ.சிறுநீர் பரிசோதனை ( )

18) கடுமையான சிறுநீர் பாதை தொற்று நோய்க்கான சிகிச்சை முறை

அ.மருத்துவரின் ஆலோசனை ( )

ஆ.சுடு தண்ணீர் ஒத்தடம் கொடுத்தல் ( )

இ.கழிவிடத்தை சுத்தம் செய்தல் ( )

ஈ.அதிகமான திரவத்தை எடுத்துக் கொள்ளுதல் ( )

19) சிறுநீர் பாதை தொற்று நோய்க்கான தடுப்பு முறை

அ.வைட்டமின் சி உணவை தவிர்த்தல் ( )

ஆ.இறுக்கமான உள்ளாடைகளை அணிதல் ( )

இ.குளியல் தொட்டியில் குளித்தல் ( )

ஈ.ஒரு நாளைக்கு 6-8 டம்ளர் தண்ணீரை பருகுதல் ( )

20) சிறுநீர் பாதை தொற்று நோயைத் தடுக்க உதவும் வைட்டமின்

அ.வைட்டமின் ஏ ( )

ஆ.வைட்டமின் டி ( )

இ.வைட்டமின் பி ( )

ஈ.வைட்டமின் சி ( )

21) பின்வறுவனவற்றில் சிறுநீர் பாதை தொற்று நோயை தடுக்க உதவும் வைட்டமின் சி நிறைந்த உணவு பொருட்கள்

அ.ஆரஞ்சு,எலுமிச்சை,பப்பாளி ( )

ஆ.ஆப்பிள்,வாழைபழம்,பிஸ்கட் ( )

இ.மாதுளை,மாட்டிறைச்சி,தானியங்கள் ( )

ஈ.எண்ணெய்,தானியங்கள்,ஈஸ்ட் ( )

22) சிறுநீர் பாதை தொற்று நோயை தடுக்க உதவும் கனிமங்கள் எது

அ.துத்த நாகம் ( )

ஆ.செம்பு ( )

இ.மெக்னீஷியம் ( )

ஈ.கால்சியம் ( )

23) சிறுநீர் பாதை தொற்று நோயை தடுக்க தவிர்க்க வேண்டியவை

அ.சிட்ரிக் பழங்கள் ( )

ஆ.காப்பி மற்றும் காரவகை உணவு ( )

இ.3-4 பூண்டுதுண்டு ( )

ஈ.அதிகமாக தண்ணீர் பருகுதல் ( )

24) மிகவும் பரிந்துரைக்கப்படும் இளம்பருவத்தினர்களுக்கான.....

உள்ளாடைகள்

அ.கம்பளி ( )

ஆ.பட்டு ( )

இ.பருத்தி ( )

ஈ.தோல் ( )

25) கழிவுப் பாதையை சுத்தம் செய்வதற்கான சரியான முறை

அ.துணியால் துடைத்தல் ( )

ஆ.பின்னிருந்து முன்நோக்கி சுத்தம் செய்தல் ( )

இ.முன்னிருந்து பின்நோக்கி சுத்தம் செய்தல் ( )

ஈ.காகிதத்தால் சுத்தம் செய்தல் ( )

26) முன்னிருந்து பின்நோக்கி சுத்தம் செய்வதால் எதை குறைக்கலாம்

அ.சிறுநீரக எரிச்சல் ( )

ஆ.மலக்குழாய் எரிச்சல் ( )

இ.ஆசன வாயில் இருந்து சிறுநீர் பாதைக்கு மைக்ரோ உயிரினம் நுழைவது ( )

ஈ.சிறுநீர் பாதையில் இருந்து ஆசன வாயிக்கு மைக்ரோ உயிரினம் நுழைவது ( )

27) எந்த முறை குளியல் சிறுநீர் பாதை தொற்று நோய்க்கு உகந்தது

அ.குளியல் தொட்டியில் குளித்தல் ( )

ஆ.குளியலறை குளியல் ( )

இ.கிணறு ( )

ஈ ஆறு ( )

28) பள்ளியில் இருக்கும் போது எத்தனை முறை நாப்கின் மாற்றம் செய்வீர்கள்

அ.மாற்றம் செய்யமாட்டேன் ( )

ஆ.ஒரு முறை ( )

இ.3-4 மணி நேரத்திற்கு ஒரு முறை ( )

ஈ. 1 மணி நேரத்திற்கு ஒரு முறை ( )

29) உள்ளாடைகளை உலரவைக்கும் முறை

அ.குளியலறை உள்ளே ( )

ஆ.சூரிய ஒளியில் ( )

இ.தரையில் ( )

ஈ.தாவரங்களின் மேல் ( )

30) சிறுநீர் பாதை தொற்று நோய்க்காக வீட்டில் செய்ய வேண்டியவை

அ.குளிர்ந்த ஒத்தடம் கொடுத்தல் ( )

ஆ.அதிகமாக நீர் பருகுதல் ( )

இ.சூடான ஒத்தடம் கொடுத்தல் ( )

ஈ.கழிவு பாதையை சூடான நீரால் சுத்தம் செய்தல் ( )

APPENDIX - J

SCORING KEY

QUESTION NUMBERS	ANSWERS	SCORE
1	b	1
2	a	1
3	b	1
4	d	1
5	c	1
6	d	1
7	d	1
8	a	1
9	a	1
10	a	1
11	a	1
12	b	1
13	c	1
14	b	1
15	b	1
16	a	1
17	d	1
18	a	1
19	d	1
20	d	1
21	a	1
22	a	1
23	b	1
24	c	1
25	c	1
26	d	1
27	b	1
28	c	1
29	b	1
30	d	1

SCORING

Section B contains 30 questions. In that each answer carriers score like

Correct answer - 1

Wrong answer - 0

Total maximum score is about 30 marks and minimum score is 0.

INTERPRETATION SCORE

The total score is interpreted as

S.NO	LEVEL OF KNOWLEDGE	SCORE
1	Inadequate knowledge	0-7 (0-23%)
2	Moderate knowledge	8-22 (24-73%)
3	Adequate knowledge	23-30 (74-100%)

APPENDIX K

EVALUATION CRITERIA RATING SCALE FOR VALIDATING THE TOOL

Respected Madam / Sir,

Instruction:

Kindly review the items in the tool. If you are agree with the criteria, please place a tick mark in “RELEVANT” column otherwise place a tick mark in “NEED MODIFICATION” column or “NOT RELEVANT” and kindly give your comments in the remark column.

SECTION : I DEMOGRAPHIC VARIABLES

S.NO	ITEM	RELEVANT	NEED MODIFICATION	NOT RELEVANT	REMARKS
1.	Age (in years)				
2.	Religion				
3.	Education of the mother				
4.	Education of the father				
5.	Type of family				
6.	Area of living				
7.	Source of information				
8.	Previous history				

Suggestions if any

SECTION : II STRUCTURED KNOWLEDGE QUESTIONNAIRE

S.NO	RELEVANT	NEED MODIFICATION	NOT RELEVANT	REMARKS
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
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28.				
29.				
30.				

Suggestions if any

APPENDIX - L

INFORMATION EDUCATION AND COMMUNICATION (ENGLISH)

INFORMATION EDUCATION AND COMMUNICATION ON

PREVENTION OF URINARY TRACT INFECTION

NAME OF THE STUDENT TEACHER	:	SUBA.G
GROUP	:	ADOLESCENT GIRLS
PLACE OF INSTRUCTION	:	GOVERNMENT GIRL’S HIGHER SECONDARY SCHOOL, VALPARAI.
TOPIC	:	PREVENTION OF URINARY TRACT INFECTION
METHOD OF TEACHING	:	LECTURE CUM DISCUSSION
TYPE OF A.V AIDS	:	LCD

CENTRAL OBJECTIVES:

The adolescent girls will be able to acquire knowledge regarding urinary tract infection and its prevention that will enable them to adapt it is practice.

SPECIFIC OBJECTIVES:

The adolescent girls will be able to

- explain the structure and functions of urinary system
- define urinary tract infection
- mention the causes of urinary tract infection
- list out the risk factor of urinary tract infection
- identify the signs & symptoms of urinary tract infection
- enlist the investigation of urinary tract infection
- explain the treatment of urinary tract infection
- describe the prevention of urinary tract infection

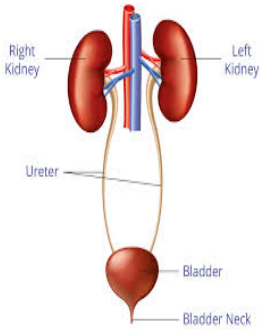
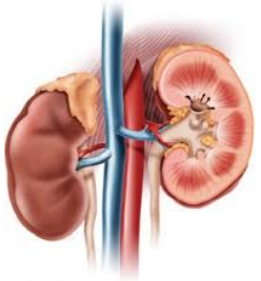
Introduction:

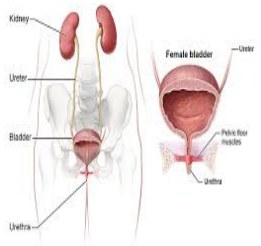
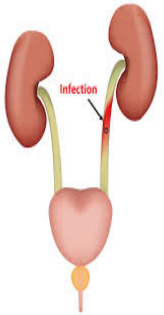
Self:

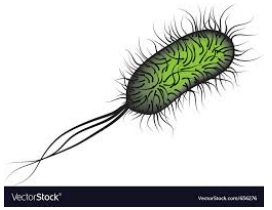
Good morning, I am Suba. Doing II year MSc nursing, holding the speciality of medical surgical nursing. Now I am here to present my topic. I hope you all will co-operate with me.

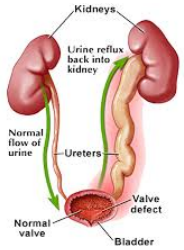
Topic:

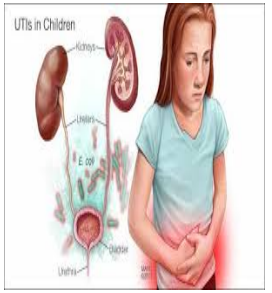
Adolescent girls estimated that 150 million UTIs occur yearly on a global basis, resulting in more than six billion dollars in direct health care expenditures. The infection in the urinary tract will produce the signs and symptoms like, fever, dysuria, urgency and suprapubic pressure or discomfort, flank pain, chills, etc. Most of the school girls do not drink water adequately or pass urine frequently at school contributing towards urinary tract infection. It may be because of school toilets with poor hygiene and in many residential institution for girls are not taught regarding menstrual hygiene. Naire and Bhave., (2002)

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	TEACHER,S ACTIVITY	LEARNER'S ACTIVITY	A.V.AIDS	EVALUATION
1.	5 mins	The adolescent girls will be able to explain the structure and function of urinary system	**STRUCTURE AND FUNCTIONS OF URINARY SYSTEM**: ▪ Urinary tract consists of two kidney,two ureters,one urinary bladder,and one urethra. ▪ Kidney is bean-shape structure with a convex and concave border. Each kidney is attached to a ureter , a tube that carries excreted urine to the bladder. The kidney excrete a variety of waste products by urine. ▪ Bladder is an expandable muscular sac in the lower abdomen that stores of urine. When signaled, the	Lecture cum discussion	Listening	 	Which are the following parts in our urinary system?

			bladder releases urine through the urethra, the urethra that carries urine out of the body. ▪ Bladder capacity varies with the individual range from 300-400ml.but urge of urinate 200ml-300ml. Normal urine output 1500ml/day. ▪ When the urine is held for long time leads to growth of micro organ.				
2.	2 min	The adolescent girls will be able to define urinary tract infection	**Definition:** Urinary tract infection (UTI) is defined as clinically detectable condition associated with invasion by disease causing micro organism in the urinary tract.	Lecture cum discussion	Listening		What is the definition of UTI?

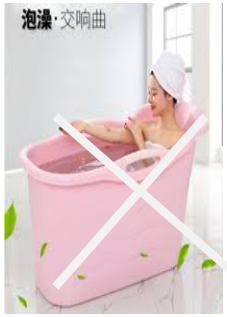
3.	1 min	The adolescent girls will be able to mention the causes of urinary tract infection	**CAUSES OF URINARY TRACT INFECTION** ❖ Bacteria: Escherichia coli, it's usually inhibit the colon.(poor toilet cleaning)	Lecture cum discussion	Listening		What is the main causes of urinary tract infection?
4.	3 min	The adolescent girls will be able to list out the risk factor of urinary tract infection	**RISK FACTOR:** • Having a suppressed immune system (mal nutrition) and other diseases that impair the immune system can increase the risk of urinary tract infection. • Having poor personal hygiene. (poor bathing,	Lecture cum discussion	Listening	 	Which are the following risk factor of urinary tract infection?

5.	4 min	The adolescent girls will be able to identify the signs and symptoms of urinary tract infection	poor cleaning after toileting) • Wearing tight pants. • Blockage along the tract of urine flow. • Back flow of urine from the bladder, up the urethra and towards the kidney. **SIGNS AND SYMPTOMS OF URINARY TRACT INFECTION:** Lower tract UTIs affect the urethra and bladder. **Symptoms of a lower tract UTI include:** 1. burning with urination 2. increased frequency of urination without passing much urine	Lecture cum discussion	Listening	 	List out the signs &symptoms of UTI?

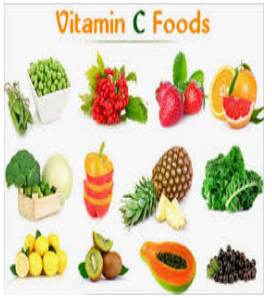
			3. increased urgency of urination 4. bloody urine 5. cloudy urine 6. urine that looks like cola or tea 7. urine that has a strong odor 8. pelvic pain in women 9. rectal pain in men Upper tract UTIs affect the kidneys. These can be potentially life threatening if bacteria move from the infected kidney into the blood. This condition, called urosepsis can cause dangerously low blood pressure, shock, and death.			 	

6.	2 min	The adolescent girls will be able to enlist the investigation of urinary tract infection	**Symptoms of an upper tract UTI include:** 1. pain and tenderness in the upper back and sides 2. chills 3. fever 4. nausea 5. vomiting **INVESTIGATION:** a) Urine analysis Urine is collecting the clean bottle. Identify the micro organism under the microscope.	Lecture cum discussion	Listening	 	What are test should be done for UTI patient?

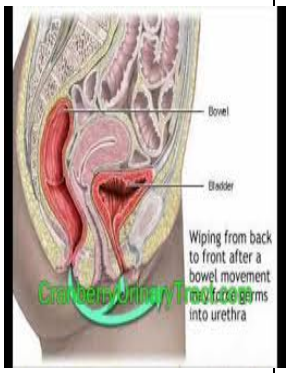
7.	4 min	The adolescent girls will be able to explain the treatment of urinary tract infection	b) Urine culture Urine is collecting the sterile container, store the sample in refrigerator then visualize the growth of micro organism under the microscope. **<u>TREATEMENT</u>** **<u>MEDICAL</u>** To take the full course of prescribed antibiotics. **<u>HOME REMEDIES</u>** i. Drink 6-8 glasses of water each day. ii. Take Vitamin-C diet like citrus fruits (orange,lemon) papaya, grapes, pine apple, strawberries and water	Lecture cum discussion	Listening	  	What is the treatment for UTI?

			melon. iii. Zinc (meat, shelfish, legumens & eggs) helps to prevent the urinary tract infection. iv. Have atleast 3-4 slices of raw garlic before going to bed or empty stomach in the early morning. v. Avoid taking caffeine, alcohol, spicy food, nicotine, and artificial sweetener. vi. Avoid wearing tight pants. vii. Wear cotton undergarments. viii. Don’t soak in the bathtub longer than 30 minutes or more than twice a day. ix. Wash the perineum after urinate Wiping from front to back after a bowel			    	

8.	9 min	The adolescent girls will be able to describe the prevention of urinary tract infection	movement. x. Showers are better and hygiene. xi. More than 3 times voiding during school hours. xii. Drying the cloth under the sun. xiii. Voiding in clean toilet. **<u>PREVENTIVE MEASURES OF UTI</u>** **<u>Drink plenty of water:</u>** One of the first things to do when you have a urinary tract infection is drink plenty of water. That's because drinking water can help flush away the bacteria. **Drink 6-8 glasses of water each day.**	Lecture cum discussion	Listening	  	What are all the preventive measures for UTI?

			<u>Dietary pattern:</u> **<u>Take Foods Rich In Vitamin & Minerals:</u>** Getting plenty of foods high in vitamins & minerals is important because large amounts of vitamin C & Zinc make urine more acidic. This inhibits the growth of bacteria in your urinary tract. **Take Vitamin-C diet like citrus fruits (orange,lemon) papaya, grapes, pine apple, strawberries and water melon & Zinc (meat, shelfish, legumens & eggs) helps to prevent the urinary tract infection.** **<u>Have Garlic Cloves:</u>** Have at least 3-4 slices raw garlic before going to bed or in empty			  	

			stomach in the early morning. Garlic has antimicrobial and anti-inflammatory properties that not only reduce UTI **Have atleast 3-4 slices of raw garlic before going to bed or empty stomach in the early morning**. **<u>Avoid Taking Irritants:</u>** Avoid taking caffeine, spicy food, nicotine, carbonated drinks, and artificial sweeteners can irritate your bladder further, making it harder for your body to heal. **Avoid taking caffeine, alcohol, spicy food, nicotine, and artificial sweetener.**			  	

			<u>Personal hygiene:</u> **<u>Stay Clean and Dry</u>** While suffering from urinary tract infection should wipe from front to back, after a bowel movement. This ensures that bacteria does not get into the urethra. It's also important to wear loose fitting clothes and under wears, which allows air to keep the urethra dry. **Avoid wearing tight pants. Wear cotton undergarments. Wash the perineum after urinate Wiping from front to back after a bowel movement. . Voiding in clean toilet. More than 3 times voiding during school hours. Drying the cloth under the sun. Don't soak**			 	

			in the bathtub longer than 30 minutes or more than twice a day. Showers are better and hygiene. **Menstrual blood is contaminated and wearing a pad for long is unhygienic and can lead to diseases such as skin rashes, urinary tract infection and vaginal infection. you should change your pad at least every 3 to 4 hours so you don't end up with an odor from bacteria that can grow in the blood.**			 	

SUMMARY:

Till now we have discussed regarding structure and functions of urinary system, definition ,causes, signs &symptons, treatment, and prevention of urinary tract infection.

CONCLUSION:

I hope you all understand about my topic, as a student's we have to teach the health personnel. (What is urinary tract infection and its prevention)

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- http://www.science direct.com

பிற்சேர்க்கை - M

சிறுநீர் பாதை தொற்று நோயை தடுக்கும் வழி முறை

தொலை தொடர்பு கல்வி (தமிழ்)

மாணவி ஆய்வாளரின் பெயர்	:	கோ.சுபா
குழு	:	இளம்வயதுபெண்கள்
கற்பிக்கும் இடம்	:	அரசு மகளிர் மேல்நிலைப்பள்ளி, வால்பாறை.
தலைப்பு	:	சிறுநீர்பாதை தொற்று நோயை தடுக்கும் வழிமுறை
கற்பிக்கும் முறை	:	தகவல் பரிமாற்றம்
கற்பிக்க பயன்படுத்தும் கருவி	:	எல்.சி.டி

மத்திய நோக்கம்:

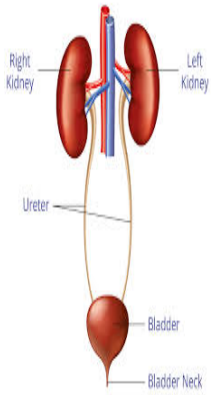
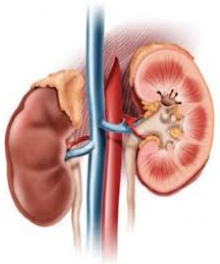
இளம்வயதுபெண்கள் சிறுநீர்பாதை தொற்று நோயை தடுக்கும் வழிமுறை பற்றிய தகவல் மற்றும் தங்கள் அன்றாட வாழ்க்கையில் நடைமுறைபடுத்தும் திறன்களை மேம்படுத்துதல்.

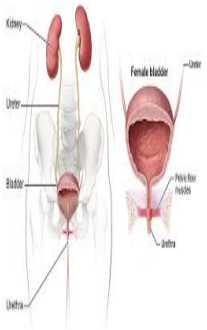
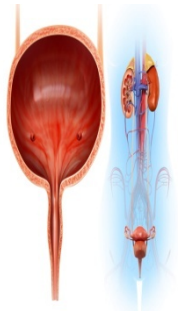
குறிப்பிட்ட நோக்கங்கள்:

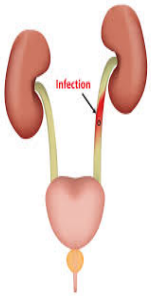
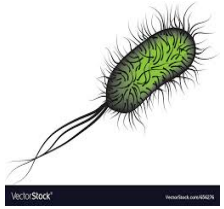
- சிறுநீரக அமைப்பின் கட்டமைப்பு மற்றும் செயல்பாட்டை விளக்க
- சிறுநீர் பாதை தொற்று நோய்க்கான வரையறை
- சிறுநீர் பாதை தொற்று நோய்க்கான காரணங்களை குறிப்பிடல்
- சிறுநீர் பாதை தொற்று நோய்க்கான அபாய காரணிகளை பட்டியலிடல்
- சிறுநீர் பாதை தொற்று நோய்க்கான அறிகுறிகளை கண்டறிதல்
- சிறுநீர் பாதை தொற்று நோய்க்கான பரிசோதனைமுறையை கண்டறிதல்
- சிறுநீர் பாதை தொற்று நோய்க்கான சிகிச்சைமுறையை பற்றி விளக்குதல்
- சிறுநீர் பாதை தொற்று நோய்க்கான தடுக்கும் வழிமுறைகளை விவரித்தல்

முன்னுரை:

இளம்வயதினர்க்கான சிறுநீர்பாதை தொற்று நோய்யானது உலகில் ஒரு வருடத்திற்கு **150** மில்லியன் காணப்படுகிறது. இதன் அறிகுறிகளான காய்ச்சல், அடிவயிற்றில் வலி மற்றும் சிறுநீர்பாதையில் எரிச்சல் ஆகியவை ஏற்படுகிறது. பெரும்பாலான பள்ளி குழந்தைகள் தண்ணீர் பருகாத காரணத்தாலும்,பள்ளியில் சிறுநீர் கழிக்காத காரணத்தாலும் அதிக அளவில் சிறுநீர் பாதை தொற்று நோயால் பாதிக்கப்படுகின்றனர். கல்வி மற்றும் தகவல் தொடர் கொள்ளுதல் முலமாக இளம்வயது பெண்களுக்கு சிறுநீர்பாதை தொற்று நோய்க்கான விழிப்புணர்வை உருவாக்கி சிறுநீர்பாதை தொற்று நோயை தடுக்க முடியும்.

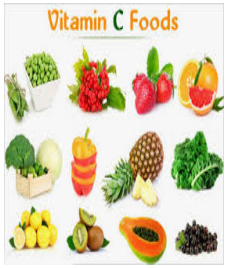
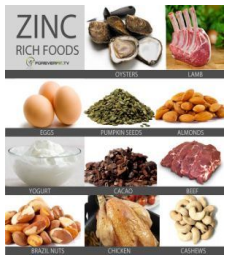
வ. எண்	நேரம்	முக்கிய குறிக்கோள்	விளக்கம்	கற்பிக்கும் முறை	கற்றல் முறை	ஒலி ஒளி கருவி	மதிப்பிடுதல்
1	5 நிமிட	சிறுநீரக அமைப்பின் கட்டமைப்பு மற்றும் அதன் செயல்பாட்டை விளக்க	<u>சிறுநீரக மண்டலத்தின் கட்டமைப்பு மற்றும் அதன் செயல்பாடு:</u> • சிறுநீரக மண்டலத்தில் இரண்டு சிறுநீரகம், சிறுநீரகக்குழாய், சிறுநீரகப்பை மற்றும் சிறுநீரகப்பாதை உள்ளது. • சிறுநீரகம் அவரை விதை வடிவில் உள்ளது. ஒவ்வொரு சிறுநீரகமும் சிறுநீரகக் குழாயுடன் இணைக்கப்பட்டுள்ளது. இந்த சிறுநீரகக்குழாய் வழியாக சிறுநீரகப்பைக்கு சிறுநீர் எடுத்து செல்லப்படுகிறது. • சிறுநீரகம் இரத்ததிலிருந்து கழிவுப்பொருட்களை	கற்பித்தல்	கவனித்தல்	 	சிறுநீரக அமைப்பில் எந்தந்த உறுப்புகள் உள்ளன?

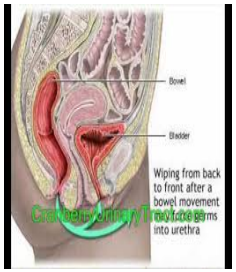
			சிறுநீராக மாற்றி வெளியேற்றுகிறது.சிறுநீர்ப்பை தசைநாராக அமைந்து வயிற்றில் உள்ள சிறுநீரை சேமித்து வைக்கிறது. உடலில் உள்ள சிறுநீர் சிறுநீர்ப்பையிலிருந்து சிறுநீர்ப்பாதை வழியாக வெளியேறுகிறது. • சராசரியாக இளம் வயதினர்க்கான சிறுநீர்ப்பையின் கொள்ளலவு 300-400 மிலி ஆகும்.24 மணி நேரத்திற்க்கான (1 நாள்) சிறுநீர் வெளியேற்றத்தின் அளவு 1500 மிலி ஆகும். • நீண்ட நேரமாக சிறுநீர் கழிக்காமல் இருப்பதால் நுண்ணுயிரி வளர்ச்சிக்கு வழிவகுக்கிறது.			 	

2.	2 நிமிட	சிறுநீர்பாதை தொற்று நோய்க்கான வரையறை	**வரையறை:** சிறுநீர்பாதை தொற்றுநோய் என்பது நுண்ணுயிர் கிருமிகள் சிறுநீர் பாதையில் வளர்வதால் ஏற்படுகிறது.	கற்பித்தல்	கவனித்தல்		சிறுநீர் பாதை தொற்று நோயை வரையறுக்க
3.	1 நிமிட	சிறுநீர்பாதை தொற்றுநோய்க்கான காரணங்கள் குறிப்பிடல்	காரணங்கள்: • மைக்ரோ உயிரி பாக்டீரியா கழிவிடத்தை சுத்தமாக கழுவாததால் ஆசனவாயிலிருந்து சிறுநீர்பாதைக்கு நுண்ணுயிர் கிருமிகள் நுழைகிறது	கற்பித்தல்	கவனித்தல்		சீறுநீர் பாதை தொற்று நோய்க்கான காரணங்கள் என்ன?
4.	3 நிமிட	சிறுநீர்பாதை தொற்று நோய்க்கான அபாய	அபாய காரணிகள் • நோய் எதிர்ப்புத்தன்மை குறைவாக இருத்தல். • சுகாதாரமற்ற முறையில்	கற்பித்தல்	கவனித்தல்		சிறுநீர்பாதை தொற்றுநோய்க்கான காரணிகள் எவை?

5.	4 நிமிட	காரணிகளை பட்டியலிடல் சிறுநீர்பாதை தொற்று நோயின் அறிகுறிகளை கண்டறிதல்	இருத்தல் (குளிக்காமல் இருத்தல், கழிவிடத்தை சுத்தமாக கழுவாததால்) • இறுக்கமான உள்ளாடைகளை அணிதல். சீறுநீர்பாதையில் ஏதேனும் அடைப்பு இருந்தால் (எ.கா. சிறுநீர்க்கல்) அறிகுறிகள்: • சிறுநீர் கழிக்கும் போது எரிச்சல் ஏற்படுதல் • சிறுநீர் இரத்தம் கலந்து காணப்படுதல் • துறுநாற்றத்துடன் கூடிய பழுப்பு நிறத்தில் சிறுநீர் காணப்படுதல். • அடிவயிற்றில் வலி மற்றும் எரிச்சல் ஏற்படுதல். • காய்ச்சல் • குளிர் காய்ச்சல்	கற்பித்தல்	கவனித்தல்	   	சிறுநீர்பாதை தொற்று நோய்க்கான அறிகுறிகளை பட்டியலிடுக

6.	2 நிமிட	சிறுநீர்பாதை தொற்றுநோய்க்கான பரிசோதனை முறையை கண்டறிதல்	பரிசோதனை முறை: சிறுநீர் பரிசோதனை முக்கியமாக சிறுநீர்பாதை தொற்றுநோய்க்கான பரிசோதனை ஆகும்.	கற்பித்தல்	கவனித்தல்		சிறுநீர்பாதை தொற்று நோய்க்கான பரிசோதனை முறை என்ன?
7.	4 நிமிட	சிறுநீர்பாதை தொற்றுநோய்க்கான சிகிச்சை முறை விளக்குதல்	சிகிச்சை முறை மருத்துவரின் ஆலோசனையால் நீண்ட கால ஆண்டிபயாடிக் எடுத்துக்கொள்ளுதல்	கற்பித்தல்	கவனித்தல்		சிறுநீர்பாதை தொற்று நோய்க்கான சிகிச்சை முறை என்ன?
8.	9 நிமிட	சிறுநீர்பாதை தொற்றுநோய்க்கான தடுப்பு முறையை விவரித்தல்	தடுப்பு முறை • அதிக அளவில் தண்ணீர் பருகுதல் • ஒரு நாளைக்கு 6-8 டம்ளர் தண்ணீர் பருக வேண்டும்.	கற்பித்தல்	கவனித்தல்	 	சிறுநீர்பாதை தொற்று நோயின் தடுப்பு முறை யாவை?

			• வைட்டமின் சி நிறைந்த உணவுப் பொருட்களை உட்கொள்ளுதல். (ஆரஞ்சு, திராட்சி, அன்னாச்சி பழம், தர்பூசணி) • ஜிங்க் (துத்தநாகம்) நிறைந்த உணவு பொருட்களை உட்கொள்ளுதல் எ.கா (மாட்டு இறைச்சி, கடல்மீன், தானியங்கள் மற்றும் முட்டை) • தினமும் 3-4 வெள்ளை பூண்டு பற்களை அதிகாலையில் உட்கொள்ளுதல். • காப்பி மற்றும் கார உணவு வகைகளை தவிர்த்தல்.			   	

			• சுத்தமான உடைகளை அணிதல். • இறுக்கமான உள்ளாடைகளை தவிர்க்க வேண்டும். • உள்ளாடைகளை சூரிய ஒளியில் உலர வைக்க வேண்டும். • பள்ளியில் இருக்கும் போது மூன்றுக்கும் மேற்பட்ட முறை சிறுநீர் கழிக்க வேண்டும். • சிறுநீர் கழித்த பிறகு கழிவிடத்தை சுத்தம் செய்யும் போது முன்னிருந்து பின்நோக்கி சுத்தம் செய்ய வேண்டும். • ஒவ்வொரு முறையும் மாதவிடாயின் போது 3-4 மணி நேரத்திற்கு ஒரு முறை நாப்கினை மாற்ற வேண்டும்.			   	

முடிவுரை

கல்வி மற்றும் தகவல் தொடர்பு கொள்ளுதல் மூலமாக இளம் வயதினருக்கான சிறுநீர்பாதை தொற்றுநோய் பற்றிய விழிப்புணர்வை உருவாக்கியுள்ளோம். இதனை நடைமுறையில் செயல்படுத்துதல் மூலமாக நாம் சிறுநீர்பாதை தொற்றுநோயை தடுக்க முடியும்.

நன்றி

APPENDIX – N

EVALUATION CRITERIA CHECK LIST FOR VALIDATION OF INFORMATION EDUCATION AND COMMUNICATION ON KNOWLEDGE REGARDING PREVENTION OF URINARY TRACT INFECTION

INSTRUCTION

Name of the expert:

Address:

The expert is requested to go through following evaluation. Criteria check list prepared for validating the intrevention on information education and communication on prevention of urinary tract infection.

There are three columns given for responses and a column and facilities your remarks in the remarks column given.

INTERPRETATION COLUMNS

Meet the criteria - Column I.

Partially meet the criteria - Column II.

Does not meet the criteria - Column III.

S.NO	CRITERIA	I	II	III	REMARKS
1.	CONTENT				
2 2.1 2.2 2.3 2.4	SELECTION OF CONTENT Content reflect the objectives Content has up to date knowledge Content is comprehensive for the knowledge regarding prevention of urinary tract infection Content provide correct and accurate information				
3	CONTENT COVERAGE				
4 4.1 4.2 4.3	ORGANIZATION OF CONTENT Logical sequence Continuity Integration				
5 5.1 5.2	LANGUAGE Local language is used in simple and in understandable Technical terms are explained at the level of learner ability				
6 6.1 6.2 6.3 6.4 6.5	FEASIBILITY/PRACTICABILITY It is suitable to the adolescent girls Permit self learning Acceptable to adolescent girls Interesting and useful to adolescent girls Suitable for setting				

If any suggestion

INFORMATION, EDUCATION AND COMMUNICATION ON URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS