



A STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE ON PREVENTION OF URINARY TRACT INFECTION AMONG ADOLESCENT GIRLS IN SELECTED GOVERNMENT HIGH SCHOOLS OF KAMRUP DISTRICT (METRO), ASSAM.

Medical Surgical Nursing

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ABSTRACT

Urinary tract infection (UTI) is one of the most common and prevalent inflammatory disorder of the urinary tract caused by the presence and abnormal growth of pathogens such as *E.coli*, *Staphylococcus aureus* etc. Adolescent females are more vulnerable because of hormonal changes and poor hygienic practices. The aim was to assess the knowledge and practice on prevention of UTI among adolescent girls in selected Government high schools of Kamrup district (metro), Assam. This study followed quantitative descriptive approach with descriptive survey design. 144 adolescent girls studying in class 8-10th standards were selected as participants by multistage random sampling. Data were collected through structured self-administered questionnaire and analyzed by using descriptive and inferential statistics. The study result revealed that majority of the respondents had moderately adequate knowledge and had average practice on UTI and its prevention. A significant positive association between knowledge and practice on UTI and its prevention among adolescent girls was found. The study can be concluded that implementation of health education to female students related to UTI and its preventive measures along with counselling on perineal hygiene and importance of menstrual hygiene has the potential to change the current scenario to a better future ahead.

KEYWORDS

Knowledge, Practice, Adolescent girls, Urinary tract infection, Prevention

INTRODUCTION

Urinary tract infection (UTI) is an inflammatory disorder of the urinary tract caused by the presence and abnormal growth of pathogens such as *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella pneumonia* etc. in the urinary system. It is considered as a leading cause of morbidity and health care expenditures in person of all ages especially for women. At least one episode of UTI occurs in nearly 5-6 percent of girls during first grade to graduation from high school. Compared to boys, the recurrence rate is 50 percent greater in girls.^[1] Due to UTI every year nearly 6-7 million young women visits physicians.^[2] The lifetime incidence of UTI in the United States is found to be one in every 5 women and 11 million per year take medicine for UTI.^[3]

More than one hundred thousand people are hospitalised annually due to UTI and it is a crucial explanation for morbidity and mortality in Indian population. Young age and female sex are the two important factors that contribute to the event of UTI and thus it is the commonest infection among adolescent girls.^[4] The National Health and Nutrition Examination Survey (NHNES, 2014) revealed that per annum UTI has been recorded in 13,320 per 1,00,000 adult women. It has also been estimated that at least one-third of all women in India are diagnosed with UTI by the time they reach 24 years of age.^[1] In a similar study by Sharma I, Paul D conducted in Assam, north-east India revealed that the rate of prevalence of UTI among females is higher (73.07 percent) than that of males (26.92 percent).^[5]

UTI poses a serious threat to public health care, hence reducing the quality of life and resulting into work absenteeism. UTI has a higher incidence among adolescent school girls which causes discomfort and drop out from school. The reasons for higher incidence of UTI among adolescent school girls are mainly poor hygiene, poor nutrition, lack of adequate knowledge regarding menstrual hygiene, inadequate intake of water and unhygienic school toilets.^[6]

From a study conducted by Vijayan Anjali et al., the knowledge about UTI among adolescent female students was a problem and there was a need of education regarding the knowledge on prevention of UTI.^[7] Similarly, Indhumol T D et al. had also reported that the knowledge of the studies on UTI was average and the main contributing factors for UTI were inadequate poor voiding habits, unhygienic practices during menstruation, inadequate personal hygiene and toilet habits.^[6] A cross sectional study by Ahmed SM et al. on UTI among adolescent girls revealed that overall prevalence of UTI among adolescent girls was 12.7 percent and was significantly present among girls who had attained menarche and not practicing proper perineal hygiene. The researcher recommended a need of education

and health intervention measures for the prevention of UTI among adolescent girls.^[8] Another study by Akshara P.I et al. recommended that similar study can be conducted with large number of participants and in different settings with a view to create awareness regarding UTI among adolescent girls.^[9]

Adolescence, which literally means, 'to grow into maturity', is generally regarded as the psychologic, social and maturational process initiated by the pubertal changes Health promotion for this adolescent age group (10-19 years) mainly consists of teaching and guidance to avoid risk-taking activities and health-damaging behaviours that will benefit them not only during the teenage years, but also throughout their life span.^[10] The performed researchers highlighted that many adolescent girls did not have adequate knowledge or information regarding UTI, its sign and symptoms and also many were lacking in practices on prevention of UTI. It was found that the incidence of UTI in northeastern population is higher due to lack of knowledge, ignorance and poor practices regarding UTI among female.^[5]

Therefore the primary objective of this study is to assess the knowledge and practice among adolescent girls on UTI and its prevention and to find out the association of knowledge and practice with different socio-demographic variables.

Problem Statement

A study to assess the knowledge and practice on prevention of Urinary Tract Infection among adolescent girls in selected Government high schools of Kamrup District (Metro), Assam.

OBJECTIVES OF THE STUDY

- To assess the knowledge of adolescent girls on Urinary Tract Infection and its prevention.
- To assess the practice on prevention of Urinary Tract Infection among adolescent girls.
- To estimate correlation between knowledge and practice on prevention of Urinary Tract Infection among adolescent girls.
- To find out the association between knowledge of adolescent girls on Urinary Tract Infection and its prevention with selected socio-demographic variables.
- To find out the association between practice on prevention of Urinary Tract Infection among adolescent girls with selected socio-demographic variables.

MATERIALS AND METHODS

The research design adopted for the study was descriptive survey. The knowledge and practice on prevention of UTI among adolescent girls

were assessed using structured self-administered questionnaire. Approval of the Institutional Ethics Committee of Regional College of Nursing, Guwahati-32 (Ref No. RNC/271/2011/314) was obtained before conducting the study. Written permission from the Headmaster of the Government school was also obtained. Adolescent girls aged between 13-19 years and studying in class 8-10th standards in selected government high schools of Kamrup district (metro), Assam participated in this study. Those who were sick and had not attained menarche were excluded. A total of 144 participants were selected by multistage random sampling. Informed consent was obtained from all the participants before administering the structured self-administered questionnaire. The participants were assured of confidentiality and anonymity. The study lasted over a period of 14 days from 12th April, 2021 to 25th April, 2021.

The structured self-administered questionnaire comprised of three sections exploring socio-demographic proforma of 11 items, knowledge questionnaire on UTI and its prevention consisting 26 multiple choice questions and a checklist of 20 items to assess the practice on prevention of UTI. The correct response for each knowledge questionnaire was given a score "one" and the wrong answer was given a score "zero". Score for each response of checklist was distributed as "Yes=1", "No=0" for positive statements and for negative statements "No=1", "Yes=0". The total score of each subject was calculated and converted into percentage and was interpreted.

The collected data for demographic variables, knowledge and practice scores were analyzed by using descriptive and inferential statistics. Summarisation of socio-demographic characteristics of the samples in frequencies and percentages were determined along with descriptive statistics of knowledge and practice score of adolescent girls on UTI and its prevention. Computation of "Karl Pearson's Correlation Coefficient" was done to estimate correlation between knowledge and practice on prevention of UTI among adolescent girls along with computation of Chi square test to find out the association of knowledge and practice with selected socio-demographic variables. Statistical Package for Social Sciences (SPSS), version 26, 2019 was used for all the statistical calculations.

RESULT

The study was conducted on a total of 144 participants, out of which maximum participants (62.5 percent) belonged to 13-14 years of age and were Hinduism by religion (75.7 percent). Maximum number of respondents belonged to Class VIII (36.8 percent) and attained menarche between 11-12 years of age (49.3 percent). The findings also revealed that majority of the respondents (72.2 percent) belonged to nuclear family and the rest were belonged to joint family. As regards to educational status and occupation of the participant's mother, majority of them had high school education (34.7 percent) and were homemaker (66 percent). Concerning educational status and occupation of the participant's father, majority of them had higher secondary education (32.6 percent) and were doing minor business (40.3 percent). As per family income per month (in rupees), most of the respondents (38.9 percent) had family income less than or equals to Rs10,000. Regarding the sources of information on UTI, majority of the respondents (31.3 percent) acquired information from their parents whereas minority (4.9 percent) acquired information from friends.

In the study, out of 144 participants, the majority (47.9 percent) had moderately adequate knowledge followed by 29.9 percent had inadequate knowledge and 22.2 percent had adequate knowledge on UTI and its prevention [Figure 1]. Also, the majority (61.11 percent) had average practice followed by 20.14 percent had good practice and 18.75 percent had poor practice on prevention of UTI [Figure 2]. A significant positive correlation ($p < 0.001$) was observed between knowledge and practice on prevention of UTI among adolescent girls.

There was a significant association between knowledge on UTI and its prevention with socio-demographic variables such as educational status ($p < 0.01$) and family income per month ($p < 0.05$). Whereas no significant association was found between knowledge on UTI and its prevention with the rest of the demographic variables such as age, religion, age of attaining menarche, type of family, mother's educational qualification, mother's occupation, father's educational qualification, father's occupation and sources of information. A significant association was also found between practice on prevention of UTI with socio-demographic variables such as religion ($p < 0.05$) and age of attaining menarche ($p < 0.05$). Whereas no significant

association was found between practice on prevention of UTI with the rest of the demographic variables such as age, educational status, type of family, mother's educational qualification, mother's occupation, father's educational qualification, father's occupation, family income per month and sources of information.

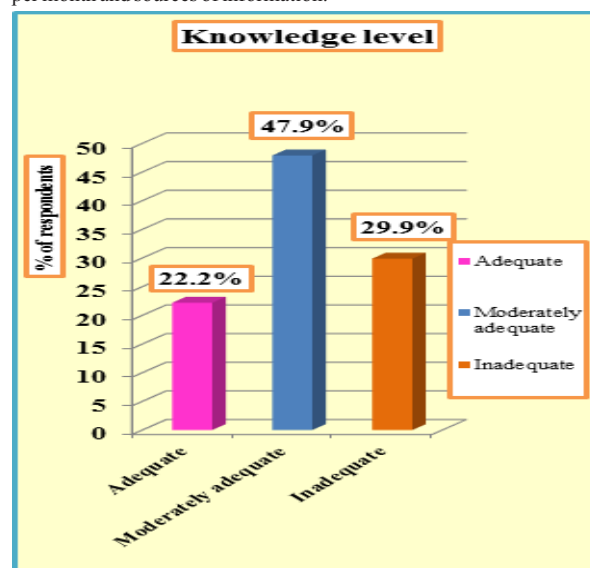


Figure 1 Bar Diagram Showing Percentage Distribution Of Study Participants According To Level Of Knowledge On UTI And Its Prevention



Figure 2 Bar Diagram Showing Percentage Distribution Of Study Participants According To Level Of Practice On Prevention Of UTI

DISCUSSION

The findings of the study had been discussed in relation to the various similar study findings. The analysis of the study revealed that out of 144 respondents, the majority (47.9 percent) had moderately adequate knowledge. However, 29.9 percent of participants reported inadequate knowledge and 22.2 percent of participants reported adequate knowledge on UTI and its prevention. It was supported by a similar study conducted by Semwal Tanuja, Sharma Mugdha (2020)^[11] which revealed that 90 percent of the participants had moderately adequate knowledge followed by 5.6 percent had inadequate knowledge and 4.3 percent had adequate knowledge on prevention of UTI. The study also concluded that the adolescent girls were still not aware about the various symptoms of UTI and even they did not practice menstrual hygiene well. However, the present study result was in contrast with a study conducted by Akshara P.I, Greeshmab J, Divya Mohan U.M., Aseem B. (2016)^[9] where majority (40 percent) of the participants had poor knowledge, 35 percent had average knowledge and 25 percent had good knowledge regarding UTI.

In the present study, it was found that majority of the participants (61.11 percent) had average practice followed by 20.14 percent had good practice and 18.75 percent had poor practice on prevention of UTI. In contrary, a study conducted by Raj Amitha, James Jinsha, Jimmy Jismin, Mariya Sneha, S. Ananda (2020)^[12] reflected different findings which revealed 58 percent had favourable practice, followed by 42 percent had neutral practice and no one had unfavourable practice regarding prevention of UTI. The study results were also in disagreement with another study conducted by Muchukota Sushma et al. (2020)^[13] which revealed 63.8 percent of subjects had poor practice, 22.5 percent had average practice and 13.5 percent had good practice about personal hygiene towards UTI and its prevention. The findings of the present study also depicted a significant positive relationship between knowledge and practice on prevention of UTI among the study participants at 0.001 level of significance. This finding was in agreement with a cross sectional descriptive study conducted by Mahmoud Fathy Mohep Huda et al. (2019)^[14] showing a significant positive relationship between knowledge and practice score level at 0.01 level of significance.

The present study findings depicted a significant association between knowledge on UTI and its prevention with socio-demographic variables such as educational status ($p < 0.01$) and family income per month ($p < 0.05$) with no significant association was found with the rest of socio-demographic variables such as age, religion, age of attaining menarche, type of family, mother's educational qualification, mother's occupation, father's educational qualification, father's occupation and sources of information. Similar findings were reported in a study conducted by Semwal Tanuja, Sharma Mugdha (2020)^[11] which revealed a significant association between level of knowledge with educational status. Yet in another non-experimental descriptive study conducted by Raj Amitha, James Jinsha, Jimmy Jismin, Mariya Sneha, S. Ananda (2020)^[12], a significant association between knowledge score with family income was found. In contrast to the present study, a study conducted by Mahmoud Fathy Mohep Huda et al. (2019)^[14] showed no significant relationship between knowledge level with family income whereas significant relationship was found between knowledge level with age and mother's education. In addition, another study conducted by Kripa CK et al. (2016)^[15] no significant association was found between knowledge on prevention of UTI with monthly family income of the participants.

The study also revealed a significant association between practice on prevention of UTI with socio-demographic variables such as religion ($p < 0.05$) and age of attaining menarche ($p < 0.05$) with no significant association with the rest of the socio-demographic variables such as age, educational status, type of family, mother's educational qualification, mother's occupation, father's educational qualification, father's occupation, family income per month and sources of information. The significant association of practice on prevention of UTI with religion is probably due to the fact that majority of the participants were from one religion. A study conducted by Mahmoud Fathy Mohep Huda et al. (2019)^[14] however reported a different scenario where significant association was found between practice level with family income but no significant association was found between practice level with age, mother's education and mother's occupation. The present study findings were also in disagreement with another study conducted by Semwal Tanuja, Sharma Mugdha (2020)^[11] which showed significant practice association with age and mother's education.

Though the study is one of its first kind in Kamrup district, Assam, it suffers from the limitations as follows. The study was limited to only 144 subjects of selected government high schools of Kamrup district (metro) Assam which does not represent the whole population. Hence generalization was limited to the population under study. In spite of the shortcomings, findings of this study can be used to design similar study in future on large sample in different settings where findings can be more generalized.

CONCLUSION

The findings of the present study highlighted the need to implement health education to female students related to UTI and its preventive measures. Students' counseling on perineal hygiene and importance of menstrual hygiene is essential. Urinary tract infection is a common problem of adolescent girls which requires great concern and attention. The study findings revealed that majority of the study participants had moderately adequate knowledge and had average practice on UTI and

its prevention. A significant positive relationship between knowledge and practice scores was observed. Moreover, a significant association between knowledge of adolescent girls on UTI and its prevention with socio-demographic variables such as educational status and family income per month and between practice of adolescent girls on prevention of UTI with socio-demographic variables such as religion and age of attaining menarche were revealed. The study has a potential to play a vital role in realizing the importance of teaching and carrying out school focused awareness programme to adolescent girls regarding UTI, its prevention and management as it may help to reduce the incidence as well as severity of UTI.

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