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Evaluation Study on the Urinary Tract Infection (UTI) and Its Co-Morbidities in Relation to the Other Cases

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ABSTRACT

BACKGROUND

A urinary tract infection (UTI) is a very common type of infection in the urinary system (S. Lee & and Jennifer Le, 2018).

A urinary tract infection (UTI) is an infection of the urinary system. This type of infection can involve the urethra (a condition called urethritis), kidneys (a condition called pyelonephritis) or bladder, (a condition called cystitis).(GuptaK,2018).

Several factors such as gender, age, race, circumcision, HIV, diabetes, urinary catheter, genitourinary tract abnormalities, pregnancy, infants, elderly, and hospitalization status bear significant risk for recurrent UTIs.

The commonest pathogenic organism isolated in UTI is E. coli followed by K. pneumoniae, Staphylococcus, Proteus, Pseudomonas, Enterococcus, and Enterobacter. (Theodor Escherich 1857–1911).

Symptoms typically include needing to urinate often, having pain when urinating and feeling pain in the side or lower back. Most UTIs can be treated With an antibiotic. (Shulman, Friedmannetal. 2007).

I. INTRODUCTION

AIM:

- To evaluate and observe of the urinary tract infection and its co-morbidities in relation to the other cases.

OBJECTIVES:

- To study the prevalence of urinary tract infection(UTI).
- To understand the causes associated with the urinary tract infection (UTI).
- Identify the co-morbidity of the urinary tract infection (UTI) with other diseases such as Diabetes mellitus, hypertension, gastritis, colitis, cholelithiasis, cholecystitis, scrub typhus, asthma, obesity, and pregnancy.
- Assess the change in resistance and sensitivity of uropathogens isolated from the urine.

KEYWORDS:

UTI,
Urinary tract infection,
Evaluation study on the urinary tract infection (UTI) and its co-morbidities in relation to the other cases,
Cystitis,
Pyelonephritis,
Urethritis,
Ureteritis

ABBREVIATIONS:

UTI	Urinary Tract Infection
CAUTI	Catheter Associated Urinary Tract Infection
E.Coli	Escherichia coli
AFI	Amniotic Fluid Index
EPN	Emphysematous Pyelonephritis
NEPN	Non Emphysematous Pyelonephritis
USG-KUB	Ultra sonogram - Kidney Urinary Bladder
XGP	Xantho granulomatous Pyelonephritis

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II. METHODOLOGY:

Study design: A Prospective study to evaluation the case.
Study design site: The study was conducted at Department of Urology, Arputha Hospital, Perambalur, Tamil Nadu State, India.
Study period: The Study was carried out at Arputha Hospital, Perambalur, Tamil Nadu State, India, over period from 01/11/2021 to 28/02/2022.
Study population:
300 patients diagnosed with UTI came to the Arputha Hospital was included in the study.
Study Criteria:-
Inclusion Criteria:

- Patients diagnosed with Urinary Tract Infection belonging to various socio-economic classes and various levels of education, Irrespective of all age and parity.

Exclusion Criteria:

- Urinary tract infection associated with urinary system cancer.
- Urinary tract infection associated with HIV patients from the study.
- Patients with congenital genitourinary abnormalities.
- Patients with recurrent UTI.

Data collection and measurements:
At baseline, we collected data related to socio demographic parameters and
Data were collected by using questionnaire. All the patients/patient's attender gave informed written consent prior to their inclusion in this study.

Ethical Approval:
The ethical clearance was approved from institutional ethical committee.

III. RESULTS

Analysis of 300 Patients with Urinary Tract Infection and the inclusion criteria was done and following results were observed.

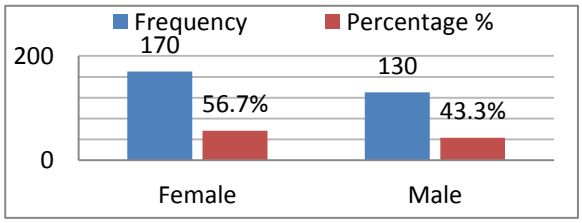
DISTRIBUTION OF STUDY SUBJECTS BASED ON GENDER WISE:

Table 1: Distribution of Study Subjects Based on Gender Wise:

GENDER	FREQUENCY	PERCENTAGE %
Female	170	56.7 %
Male	130	43.3 %
Total	300	100 %

Out of 300 patients, 170 (56.7%) females were mostly affected by UTI compared with males 130 (43.3%).As showed in table 1, and fig.1.

Fig.1: Distribution of Study Subjects Based on Gender Wise:



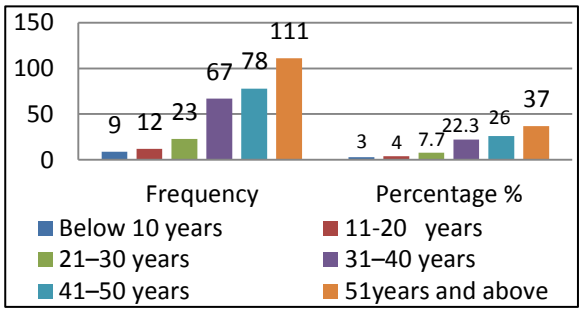
DISTRIBUTION OF STUDY SUBJECTS BASED ON AGE WISE:

Table 2: Distribution of Study Subjects Based on Age Wise:

PATIENT AGE	FREQUENCY	PERCENTAGE %
Below 10 years	9	3%
11-20 years	12	4%
21–30 years	23	7.7%
31–40 years	67	22.3%
41–50 years	78	26%
51years and above	111	37%
TOTAL	300	100%

Out of 300 patients, 111 (37%) of patients were 51 years and above, followed by 78 (26%) of patients were 41-50 years, 67 (22.3%) of patients were 31-40 years, 23 (7.7%) of patients were 21-30 years, 12 (4%) of patients 11-20 years, and 9 (3%) of patients were below 10 years. As showed in table2, and fig.2.

Fig.2: Distribution of Study Subjects Based on Age Wise:



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DISTRIBUTION OF STUDY SUBJECTS BASED ON EDUCATION DATA:

Table 3: Distribution of Study Subjects Based on Education Data:

EDUCATION	N=300	PERCENTAGE %
Nil	37	12.3 %
< SSLC	55	18.3 %
SSLC	36	12 %
HSC	134	44.7 %
DIPLOMA	19	6.3 %
UG	11	3.7 %
PG	8	2.7 %
TOTAL	300	100 %

Fig.3: Distribution of Study Subjects Based on Education Data:

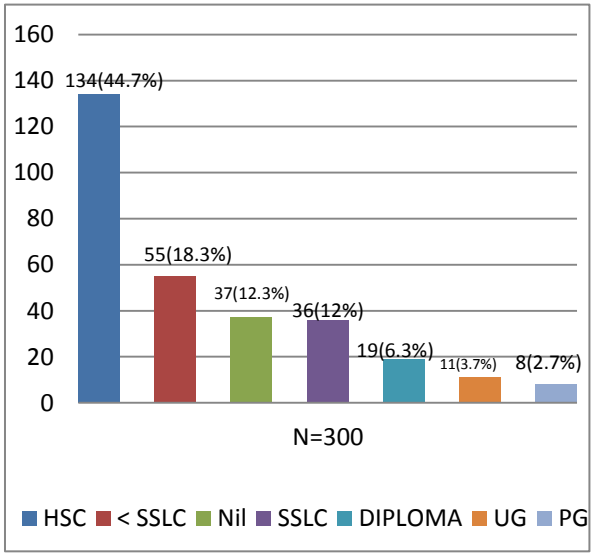


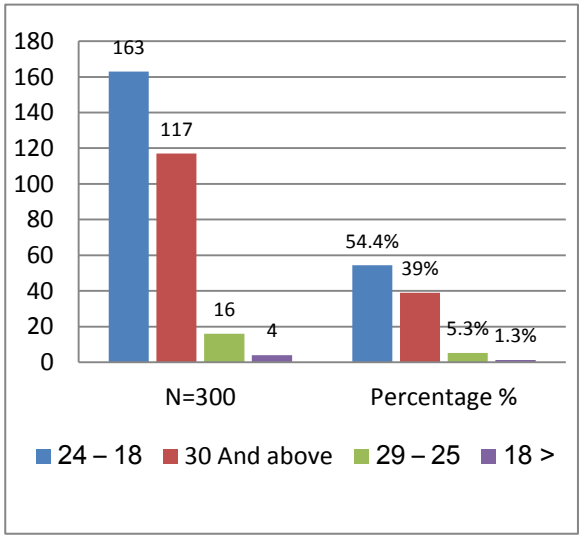
Table 3 reveals the education data of patients those who are affected by UTI. Out of 300 patients 134 (44.7%) were HSC, 55 (18.3%) of patients were < SSLC, 37 (12.3) of patients were nil, 36 (12%) of patients were SSLC, 19 (6.3%) of patients were diploma, 11 (3.7%) of patients were UG, and 8 (2.7%) of patients were PG. As showed in table 3, and fig.3.

DISTRIBUTION OF STUDY SUBJECTS BASED ON BMI (BODY MASS INDEX) REPORT:

Table 4: Distribution of Study Subjects Based on BMI (Body Mass Index) Report:

BMI RANGE	N=300	PERCENTAGE %
< 18	4	1.3 %
18 – 24	163	54.4 %
25 – 29	16	5.3 %
30 And above	117	39 %
TOTAL	300	100 %

Fig.4: Distribution of Study Subjects Based on BMI (Body Mass Index) Report:



Out of 300 patients, 163 (54.4%) of patients were in 18-24 BMI range, followed by 117 (39%) of patients in 30 and above BMI range, 16 (5.3%) patients were in 25-29 BMI range, and 4 (1.3%) of patients were <18 BMI range. As showed in table 4, and fig.4.

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DISTRIBUTION OF STUDY SUBJECTS BASED ON SOCIAL HISTORY DATA (SOCIAL HABITS):

Table 5: Distribution of Study Subjects Based on Social History (Social Habits):

SOCIAL HABITS	N=300	PERCENTAGE %
Smoking	23	7.7 %
Alcohol	42	14 %
Betel/Tobacco/Snuff /Hans	75	25 %
Plain social habits(Nil)	160	53.3 %
TOTAL	300	100 %

Fig.5: Distribution of Study Subjects Based on Social History (Social Habits):

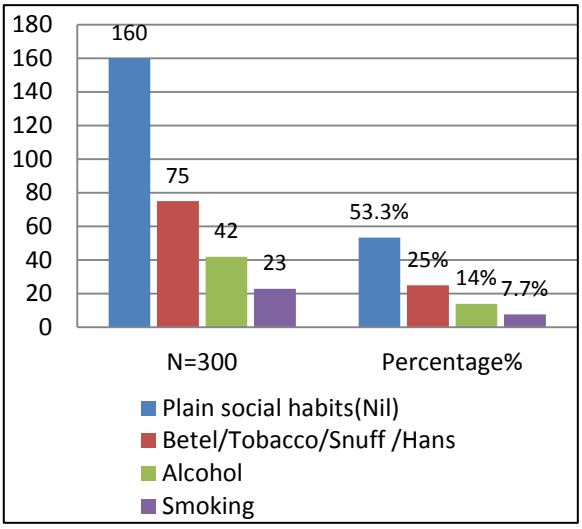


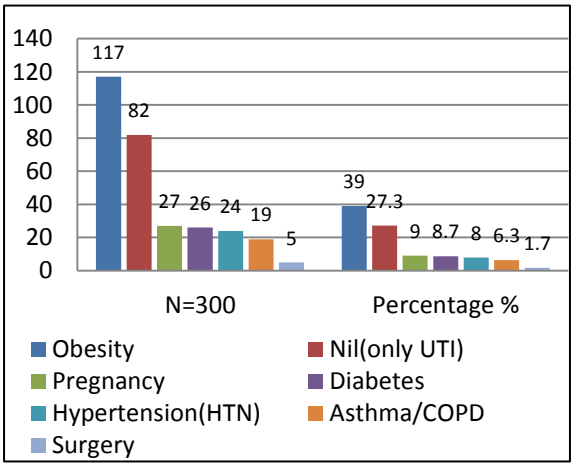
Table 5: Social History Data (Social Habits) in Patients with UTI. A total of 300 patients, 160 (53.3%) of patients were plain social habits (Nil), 75 (25%) of patients were abuse betel/tobacco/snuff/Hans, 42 (14%) of patients were abuse of alcohol, and 23 (7.7%) of patients were smoking. As showed in table 5, and fig.5.

DISTRIBUTION OF STUDY SUBJECTS BASED ON MEDICAL HISTORY DATA:

Table 6: Distribution of Study Subjects Based on Medical History Data:

MEDICAL HISTORY	N=300	PERCENTAGE %
Hypertension(HTN)	24	8 %
Diabetes	26	8.7 %
Obesity	117	39 %
Asthma/COPD	19	6.3 %
Pregnancy	27	9 %
Surgery	5	1.7 %
Nil(only UTI)	82	27.3 %
TOTAL	300	100 %

Fig.6: Distribution of Study Subjects Based on Medical History Data:



A total of 300 patients, 117 (39%) of patients were suffered from obesity, 82 (27.3) of patients were suffered from UTI only, 27 (9%) of patients were pregnants, 26 (8.7%) of patients suffered from diabetes, 24 (8%) of patients were suffered from hypertension, 19 (6.3%) of patients were suffered from asthma/COPD, and 5 (1.7%) of patients were had surgery in the past. As showed in table 6, and fig.6.

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DISTRIBUTION OF STUDY SUBJECTS BASED ON CO-SYMPTOMS:

Table 7: Distribution of Study Subjects Based on Co-Symptoms:

CO-SYMPTOMS	N=300	PERCENTAGE %
Burning micturition	57	19 %
Decreased urine output	32	10.7 %
Fever	17	5.7 %
Vomiting	13	4.3 %
Dysuria	53	17.7 %
Frequent need to urinate	22	7.3 %
Loin pain	45	15 %
Strong smelling urine	14	4.7 %
Chills	11	3.6 %
Hematuria	12	4 %
Cloudy urine	15	5 %
Pelvic area pain	9	3 %
TOTAL	300	100 %

Fig.7: Distribution of Study Subjects Based on Co-Symptoms:

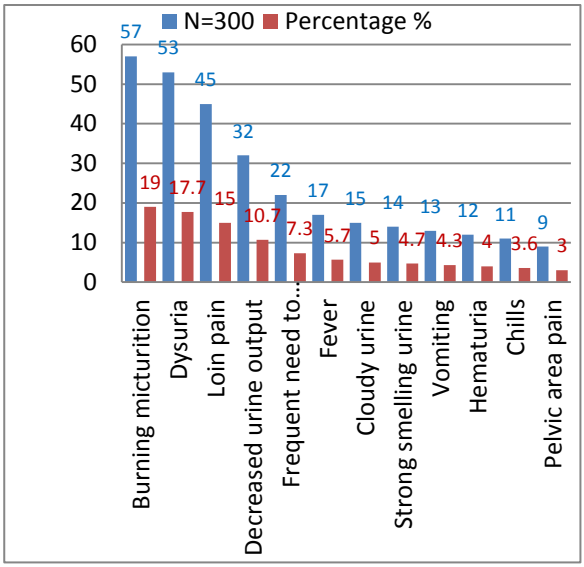


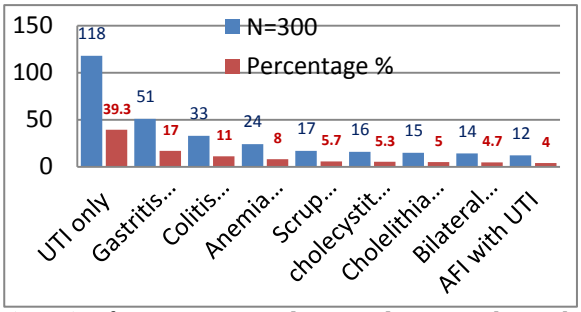
Table 7 Co-Symptoms of UTI patients, 57 (19%) of patients were suffering from burning micturition, 53 (17.7%) of patients were suffering from dysuria, 45 (15%) of patients were suffering from loin pain, 32 (10.7) of patients were suffering from decreased urine output, 22 (7.3%) of patients were suffering from frequent need to urinate, 17 (5.7%) of patients were suffering from fever, 15 (5%) of patients suffering from cloudy urine, 14 (4.7%) of patients suffering from strong smelling urine, 13 (4.3%) of patients were suffering from vomiting, 12 (4%) of patients were suffering from hematuria, 11 (3.6%) of patients were suffering from chills, and 9 (3%) of patients were suffering from pelvic area pain. As showed in table 7, and fig.7.

DISTRIBUTION OF STUDY SUBJECTS BASED ON CO-DIAGNOSIS:

Table 8: Distribution of Study Subjects Based on Co-Diagnosis:

CO-DIAGNOSIS	N=300	%
UTI with Anemia	24	8 %
UTI with Gastritis	51	17 %
UTI with Colitis	33	11 %
UTI with Cholelithiasis	15	5 %
UTI with AFI	12	4 %
UTI with Scrub Typhus	17	5.7 %
UTI with Cholecystitis	16	5.3 %
UTI with Bila. Ren.Calc.	14	4.7 %
Only UTI	118	39.3 %
TOTOAL	300	100 %

Fig.8: Distribution of Study Subjects Based on Co-Diagnosis:



A total of 300 patients were diagnosed by various disorders with UTI that called Co-Diagnoses, also diagnosed with UTI only, 118 (39.3%) of patients were diagnosed with only UTI, 51 (17%) of patients were diagnosed UTI with gastritis, 33 (11%) of patients were diagnosed UTI with colitis, 24 (8%) of patients were diagnosed UTI with anaemia, 17 (5.7%) of patients were diagnosed UTI with scrub typhus, 16 (5.3%) of patients were diagnosed UTI with cholecystitis, 15 (5%) of patients were diagnosed UTI with cholelithiasis, 14 (4.7%) of patients were diagnosed UTI with bilateral renal calculus, and 12 (4%) of patients were diagnosed UTI with AFI (Amniotic Fluid Index) this especially in pregnant women. As showed in table 8, and fig.8.

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DISTRIBUTION OF STUDY SUBJECTS BASED ON CO-PRESCRIPTION:

Table 9: Distribution of Study Subjects Based on Co-Prescription:

DRUG SYSTEM	N=300	PERCENTAGE %
Anti-diabetic	26	8.7 %
Respiratory	19	6.3 %
Cardiovascular	24	8 %
Neurological	33	11 %
Hormonal	12	4 %
General health enhancers/nutrition	150	50 %
Analgesics	36	12 %
TOTAL	300	100 %

Fig.9: Distribution of Study Subjects Based on Co-Prescription:

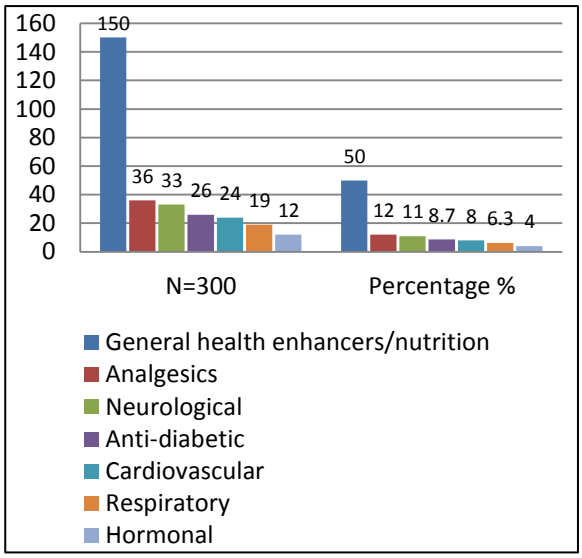


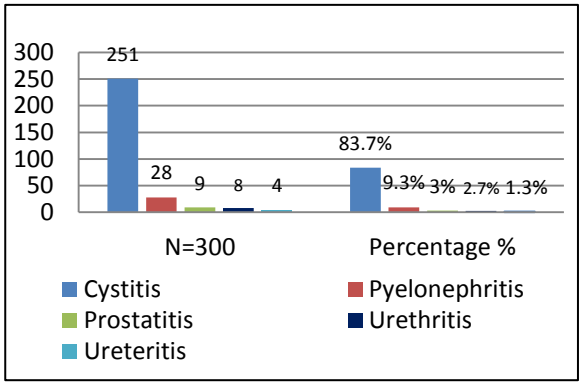
Table 9, a total of 300 patients were prescribed by the various medications to take care of the underlying cause of the diseases existing with the UTI, 150 (50%) of patients were prescribed by General health enhancers / nutrition, 36 (12%) of patients were prescribed by analgesics drugs, 33 (11%) of patients were prescribed by neurological drugs, 26 (8.7%) of patients were prescribed by anti-diabetic drugs, 24 (8%) of patients were prescribed by cardiovascular drugs, 19 (6.3%) of patients were prescribed by respiratory drugs, and 12 (4%) of patients were prescribed by hormonal drugs. As showed in table 9, and fig.9.

DISTRIBUTION OF STUDY SUBJECTS BASED ON TYPES OF UTI:

Table 10: Distribution of Study Subjects Based on Types of UTI:

TYPES OF UTI	N=300	PERCENTAGE %
Cystitis	251	83.7 %
Pyelonephritis	28	9.3 %
Prostatitis	9	3 %
Urethritis	8	2.7 %
Ureteritis	4	1.3 %
TOTAL	300	100 %

Fig.10: Distribution of Study Subjects Based on Types of UTI:



Out of 300 patients, 251 (83.7%) of patients were affected by cystitis, followed by 28 (9.3%) of patients were affected by Pyelonephritis, 9 (3%) patients were affected by prostatitis, 8 (2.7%) of patients were affected by urethritis, and 4 (1.3%) of patients were affected by ureteritis. As showed in table 10, and fig.10.

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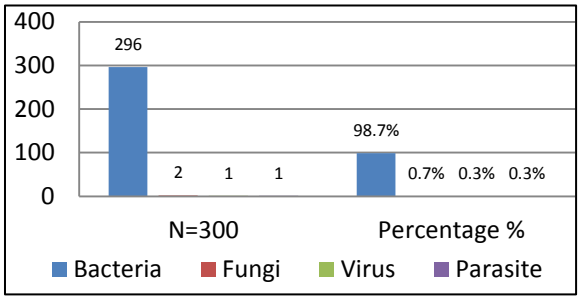
DISTRIBUTION OF STUDY SUBJECTS BASED ON TYPES OF UTI PATHOGENS:

Table 11: Distribution of Study Subjects Based on Types of UTI:

UTI PATHOGENS	N=300	PERCENTAGE %
Bacteria	296	98.7 %
Fungi	2	0.7 %
Virus	1	0.3 %
Parasite	1	0.3 %
TOTAL	300	100 %

Fig.11: Distribution of Study Subjects Based on Types of UTI:



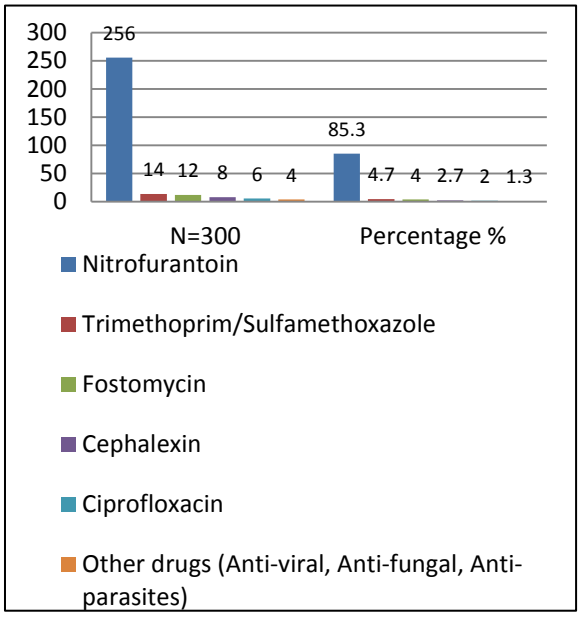
In this study showed 296 (98.7%) of cases caused by bacteria pathogens, 2 (0.7%) of cases caused by fungi pathogens, 1 (0.3%) of cases caused by virus pathogens, and 1 (0.3%) of cases caused by parasite pathogens. As showed in table 11, and fig.11.

DISTRIBUTION OF STUDY SUBJECTS BASED ON TREATMENT OF UTI BY ANTI- BIOTICS & OTHER DRUGS:

Table 12: Distribution of Study Subjects Based on Treatment of UTI By Anti-biotics & Other Drugs:

ANTI-BIOTIC & Other drugs	N=300	PERCENTAGE %
Nitrofurantoin	256	85.3 %
Trimethoprim/Sulfamethoxazole	14	4.7 %
Fostomycin	12	4 %
Cephalexin	8	2.7 %
Ciprofloxacin	6	2 %
Other drugs (Anti-viral, Anti-fungal, Anti-parasites)	4	1.3
TOTAL	300	100 %

Fig.12: Distribution of Study Subjects Based on Treatment of UTI By Anti-biotics & Other Drugs:



A total of 300 antibiotics & other drugs for treatment of UTI, 256 (85.3%) of patients were treated with Nitrofurantoin, 14 (4.7%) of patients were treated with Trimethoprim/sulfamethoxazole, 12 (4%) of patients were treated with fostomycin, 8 (2.7%) of patients were treated with cephalexin, 6 (2%) of patients were treated with ciprofloxacin, and 4 (1.3%) were treated with other drugs (such as anti-viral, anti-fungal, anti-parasites). As showed in table 12,fig.12.

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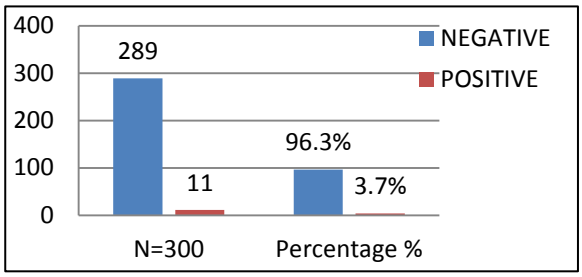
DISTRIBUTION OF STUDY SUBJECTS BASED ON LEUKOCYTE ESTERASE:

Table 13: Distribution of Study Subjects Based on Leukocyte Esterase:

LEUKOCYTE ESTERASE	N=300	PERCENTAGE %
POSITIVE	11	3.7 %
NEGATIVE	289	96.3 %
TOTAL	300	100 %

Fig.13: Distribution of Study Subjects Based on Leukocyte Esterase:



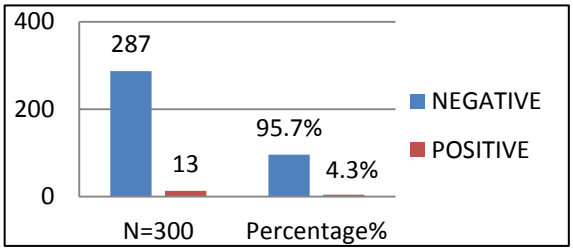
Out of 300 patients, 289 (96.3%) of cases were negative, and11 (3.7%) of cases were positive. As showed in table13, and fig.13.

DISTRIBUTION OF STUDY SUBJECTS BASED ON NITRITES:

Table 14: Distribution of Study Subjects Based on Nitrites:

NITRITES	N=300	PERCENTAGE %
POSITIVE	13	4.3 %
NEGATIVE	287	95.7 %
TOTAL	300	100 %

Fig.14: Distribution of Study Subjects Based on Nitrites:



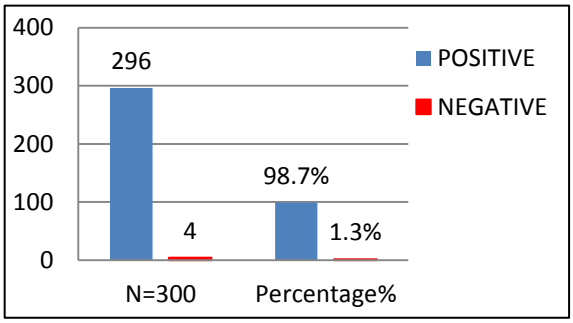
A total of 300 patients, 287 (95.7%) cases were negative and 13 (4.3%) cases were positive. As showed in table 14, and fig.14.

DISTRIBUTION OF STUDY SUBJECTS BASED ON BACTERIURIA:

Table 15: Distribution of Study Subjects Based on Bacteriurea:

BACTERIURIA	N=300	PERCENTAGE %
POSITIVE	296	98.7 %
NEGATIVE	4	1.3 %
TOTAL	300	100 %

Fig.15: Distribution of Study Subjects Based on Bacteriurea:



Among the study of 300 patients, 296 (98.7%) cases were positive, and 4 (1.3%) of cases were negative. As showed in table 15, and fig.15.

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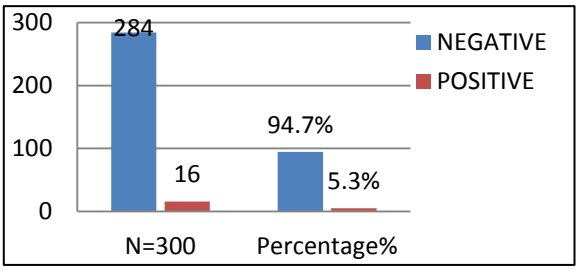
DISTRIBUTION OF STUDY SUBJECTS BASED ON PYURIA:

Table 16: Distribution of Study Subjects Based on Pyuria:

PYURIA	N=300	PERCENTAGE %
POSITIVE	16	5.3 %
NEGATIVE	284	94.7 %
TOTAL	300	100 %

Fig.16: Distribution of Study Subjects Based on Pyuria:



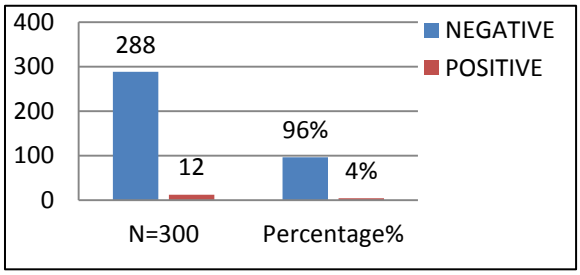
Out of 300 patients, 284 (94.7%) of cases were negative, and 16 (5.3%) of cases were positive. As showed in table 16, and fig.16.

DISTRIBUTION OF STUDY SUBJECTS BASED ON HEMATURIA:

Table 17: Distribution of Study Subjects Based on Hematuria:

HEMATURIA	N=300	PERCENTAGE %
POSITIVE	12	4 %
NEGATIVE	288	96 %
TOTAL	300	100 %

Fig.17: Distribution of Study Subjects Based on Hematuria:



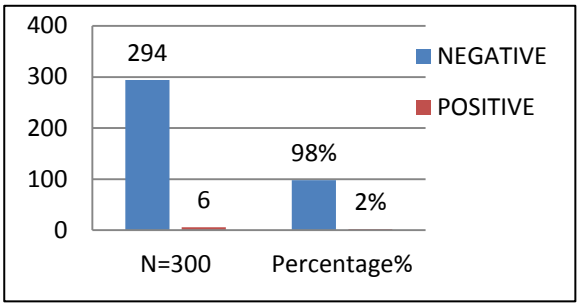
A total of 300 patients, 288 (96%) of cases were negative, and 12 (4%) of cases were positive. As showed in table17, and fig.17.

DISTRIBUTION OF STUDY SUBJECTS BASED ON ALBUMIN:

Table 18: Distribution of Study Subjects Based on Albumin:

ALBUMIN	N=300	PERCENTAGE %
POSITIVE	6	2 %
NEGATIVE	294	98 %
TOTAL	300	100 %

Fig.18: Distribution of Study Subjects Based on Albumin:



A total of 300 patients, 294 (98%) of cases were negative, and 6 (2%) of cases were positive. As showed in table 18, and fig.18.

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IV. DISCUSSION

This study gives a brief description of the characteristics of sample, the patients data like age range, sex wise distribution of patients, BMI category they belong, Education data, social history data, Co-morbidity data report (With/After UTI), their family history, past medical/ medication history, their social history, UTI types, Co-prescription medication class, Co-diagnosis conditions with UTI.

A total of 300 patients were enrolled into the study out of which 170 of them were females (56.7%) and130 of them were males (43.3%).

Our study shows female patients are more vulnerable to have urinary tract infection (UTI).

Helen S. Lee 2018, studies showed the results females are more likely affected by UTI more than males, because of anatomic differences, including shorter urethral length and moist periurethral environment in women.

In age wise distribution, the total 300 patients were divided into different age groups.

Highest 37% of patients noted in 51 years and above of age, followed by 26% in 41 to 50 years of age, these two groups were the major among the other groups and can be correlated with the findings of the Urinary Tract Infection (UTI) and the consumption of Antibiotics drugs.

Next as descending gradually followed by the group 22.3% in 31 to 40 years, next followed by 7.7% in 21 to 30 years, then next followed by 4% in 11 to 20 years, then followed by the final group 3% in below 10 years which this final group was in infants and children.

We find no correlation between the education data and the Urinary Tract Infection (UTI).There may a correlation between the diagnosis of Urinary Tract Infection (UTI) and educational levels of the people. May be there are more people coming out to understand the importance of getting medical advice by going to a facility on appearance of symptoms.

The highest of the people who were diagnosed with of Urinary Tract Infection (UTI) were found to be in the HSC category in 134 (44.7%), and the next was from the below SSLC category as 18.3% in 55, and then next was category of people without education level as 12.3% in 37 persons, and then next was in the SSLC category as 12% in 36 persons, then next was in diploma category as 6.3% in 19 persons, then next was in UG category as 3.7% in 11 persons, then next the final category was in PG category which were few peoples have education level as 2.7% in 8 persons.

Body mass index is another major indicator of risk of developing heart disease and other chronic disease.

It is calculated using the patient's height and weight using an online manual calculator.

The BMI of three hundred patients (300) patients was calculated and noted down during the visit.

The highest category of BMI is normal BMI people in 163 patients as 54.4 % in 18 – 24 of BMI range, then followed by 117 patients as 39% were in the overweight range of BMI range 30 and above and then followed by 16 patients as 5.3 % in 25 -29 of BMI range, then followed by the final BMI was below 18 of BMI range of in 4 patients as 1.3% who having decreased BMI range with UTI.

Amongst the habits, the highest were in 53.3 % for 160 persons were plain people, and then second highest social habit was in the people used the Betel leaves or Tobacco or Snuff or Hans regularly as 25% in 75 persons of the population in this study, next the social habits was in alcohol use to the tune of about 42 people as 14%, then the next and final social habit in smoking as 7.7% in 23 persons who smoking.

There were 2 basic objectives of this study, one was to find out what was the past history and what are the co-morbidities, meaning whether there was any correlation between any past history in acquiring this disease or whether this disease had led to any other disease or co-morbidity.

When it comes to past medical history, in line with the domestic and the international studies, the highest category in 117 patients as 39% out of the total of 300 had suffered with obesity, 82 patients (27.3. %) had no suffered by other disease that means they only suffered UTI without other diseases, then followed by pregnancy 27 patients (9%), then followed by Diabetes patients 26 (8.6%), then hypertension 24 patients (8%), then Respiratory disorders patients like Asthma or COPD 19 patients (6.3%), and finally 5 patients(1.7%) had undergone surgery in the past.

The next was the co-morbidities of Urinary Tract Infection (UTI) leads to various symptoms and any resultant associated to symptoms are called as Co-symptoms.

Burning micturition was the highest noted with 19 % in 57 persons of the total study population suffering or experience, then followed by Dysuria with 17.7% in 53 persons, then followed by loin pain as 15% in 45 of people experiencing it, then followed by decreased urine output as 10.7% in 32 persons, then

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followed by frequent need to urinate as 7.3% in 22 persons, then followed by fever as 5.7% in 17 persons, then followed by cloudy urine as 5% in 15 persons, then followed by strong smelling urine as 4.7% in 14 persons, then followed by vomiting as 4.3% in 13 persons, then followed by hematuria as 4% in 12 persons, then followed by chills as 3.6% in 11 persons, finally of the co-symptoms was pelvic area pain as 3% in 9 patients of 300 out of the total of the patients.

We found out The next was the co-morbidities of Urinary Tract Infection (UTI) leads to various disorders and any resultant associated to diagnosis are called as Co-diagnosis.

The highest range of the diagnosis was only UTI as 39.3% in 118 patients of 300 of the total study population suffering or experience, then followed by gastritis after being diagnosed with UTI as 17% in 51 patients, the next major was colitis with 11% in 33 patients, followed by anemia as 8% in 24 patients, then followed by the scrub typhus as 5.7% in 17 patients, then followed by cholecystitis as 5.3% in 16 patients,

then followed by cholelithiasis as 5% in 15 patients, then followed by bilateral renal calculus as 4.7% in 14 patients, then finally the co-diagnosis was by AFI (Amniotic Fluid Index) with UTI which diagnosed in pregnant women with UTI (urinary tract infection) as 4% in 12 patients of the total 300 patients.

It is evident from all the Indian and international literatures that UTI co exists with many other disorders which need to be taken care of. These are also taken care by prescribing various medications to take care of the underlying cause of the diseases existing with the UTI.

General Health Enhancers/Nutrition class of drugs such as nutritional and multivitamin supplements were the highest co prescribed medication class with people who are suffering from UTI with 50% in 150 out of 300 patients, followed by analgesics as 12% in 36 out of 300 patients, then followed by neurological as 11% in 33 out of 300 patients, then followed by anti-diabetic class as 8.7% in 26 out of 300 patients, then followed by cardiovascular class drugs such as drugs of hypertension as 8% in 24 out of 300 patients, then followed by respiratory class such as drugs used in asthma or COPD as 6.3% in 19 out of 300 patients, then finally with the female patients being prescribed with hormonal drugs of upto 4% in 12 out of 300 patients.

Out of the 300 study population, 251 (83.7%) were the highest range of the patients suffering from cystitis, followed by 28 (9.3%) suffering from pyelonephritis, next by 9 (3%) suffering from prostatitis, then followed by 8 (2.7%) suffering from urethritis, then finally by 4 (1.3%) suffering from ureteritis of people in this category.

Urinary tract infections (UTIs) are a severe public health problem and are caused by a range of pathogens, but most commonly by bacteria were the highest pathogens causes the UTI in our study group as 98.7% (296), then followed by fungi pathogens in UTI as 0.7% (2), then followed by virus pathogens in UTI as 0.3% (1), then finally parasite pathogens in UTI as 0.3% (1).

A urinary tract infection (UTI) starts when bacteria get into the bladder, kidneys, or another part of the urinary tract. The best way to treat a UTI and to relieve symptoms like pain, burning, and an urgent need to pee -- is with antibiotics.

These medications kill bacteria that cause the infection. It's important to take them just as doctor prescribed.

Which antibiotic the patient get and how long take it depend on the urine culture results, and urinalysis.

In our study we found out nitrofurantoin antibiotic is the highest in the use for treatment the UTI as 256 (85.3%), then followed by mixed combination antibiotic as trimethoprim /sulfamethoxazole antibiotic are used for treatment of UTI in 14 (4.7%), then followed by fostamycin antibiotic in 12 (4%), then cephalexin antibiotic used for treatment of UTI in 8 (2.7%), then followed by ciprofloxacin antibiotic in 6 (2%) was used for treatment of UTI, then finally followed by other drugs such as Anti-viral, Anti-fungal, and Anti-parasites in our study.

In our study we found out the leukocyte esterase was positive in 11 cases with 3.7% and negative in 289 cases with 96.3%.

Among the study proven of UTI cases, nitrites were positive in 13 cases with 4.3%, and negative in 287 cases with 95.7% in our study.

In UTI cases in our study, we found out the bacteriuria was present in 296 cases with 98.7%, and absent in 4 cases with 1.3% in our study.

According to the results, we found out the study proven of UTI cases, pyuria was positive in 16 cases with 5.3%, and negative in 284 cases with 94.7% in our study.

In our study for UTI cases, hematuria was present in 12 cases with 4% , and absent in 288 cases with 96% in our study.

Based on Lab results of UTI cases, we found the albumin was positive in 6 cases with 2%, and negative in 294 cases with 98% in our study.

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V. CONCLUSION

It was observed that Urinary tract infection is a common contagion among both genders with higher prevalence among women due to their physiology and pregnancy enhances the occurrence of the infection due to a variety of physiological changes during the course of pregnancy.

In addition, diabetes enhances the incidence due to elevated blood sugar levels and other factors (Hardy, 1976) like parity, gravidity, hormonal imbalance, immunosuppressant and geographical location also has a significant role in the incidence of the infection.

All these several factors such as gender, age, race, circumcision, HIV, diabetes, urinary catheter, genitourinary tract abnormalities, pregnancy, infants, elderly, and hospitalization status bear significant risk for recurrent UTIs.

UTI can be diagnosed by signs and symptoms of UTI and history of patient and urinalysis or urine culture for detection and confirm the UTI and type of pathogens that caused the UTI, then doctor will be prescribe the best drugs for treatment the UTI.

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