Prevalence of Symptomatic and Asymptomatic Urinary Tract Infection in Humans

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Abstract: Both Symptomatic and asymptomatic urinary tract infection (UTI) are caused by the growth of microorganisms anywhere in the urinary tract. The bacteria responsible for this disease may cause symptoms (Symptomatic) or occasionally grow without any symptoms or asymptomatic infection. Therefore, present study was conducted to assess the prevalence of symptomatic and asymptomatic urinary tract infection (UTI) in both human males and females belongs to different groups. A total of 94 urine samples were randomly collected from both males and females (60 females and 34 males) during the period of September 2014-March 2015. The percentage of symptomatic and asymptomatic UTI in males and females were determined by adopting two methods of macroscopic and Microscopic. The obtained result revealed that the existence of symptomatic UTI (60.63%) was higher than asymptomatic UTI (39.36%), respectively. Furthermore, the percentage of UTI in females was high (63.82%) as compare to males (36.17%), respectively. The comparative percentages of urinary tract infection (UTI) when studied among married and single or unmarried peoples revealed that married people have high chances of UTI infection (68.08%) than that of single people(21.28%). In additions, present study also estimated that prevalence of UTI among working peoples is less (44.68%) as compare to that of non-working peoples (55.32%). Thus, it was concluded that human females, married and non-working peoples were more exposed to urinary tract infection (UTI) as compare to males, unmarried and working groups of peoples.

Key words: Urinary tract infection (UTI), symptomatic, asymptomatic, prevalence in different groups.

INTRODUCTION

Urinary tract infection (UTI) can occur at any life stage and can affect both the males and females [7]. Some bacteria like Staphylococcus saprophyticus also accounts 5-15% of UTIs in younger women, while Klebsiella, Enterococci and Proteus mirabilis also cause UTIs in older women [8]. Bacteria can reach easily to bladder in women as compare to men due to the short and wide length of the urethera [2]. Previous published literature and surveys indicated that in the United States, it is estimated that about eight million people in United States are affected by UTI annually [9]. The symptoms of UTI includes burning feeling during urination, frequent or urgent urination, even when one passes little urine, pain in lower abdomen, bloody urine, more smelly than typical urine [10]. Therefore, present study was aimed to determine the prevalence of symptomatic and asymptomatic among human males and females belongs to different groups.
MATERIALS AND METHODS

Sample Collection: Random urine samples were collected from laboratory of Saleem Medical Complex of Quetta City of Balochistan, Pakistan.

Chemicals: Urine reagent strips (dip sticks).

Methodology: (1) Macroscopic urinalysis (2) Microscopic urinalysis

Macroscopic Urinalysis: The first part of urinalysis was directed towards visual observation. Normal, fresh urine was pale to dark yellow or amber in color and clear. Normal urine volumes were 750 to 2000 ml/24 hr. Turbidity or cloudiness may be caused by excessive cellular material or protein in the urine. If the sample contained many red blood cells, it would be cloudy as well as red.

Microscopic Urinalysis:
- A sample of urine (5 ml) was centrifuged in a centrifuge test tube at comparatively low speed (about 2-3,000 rpm) for 10-12 minutes, until a fairly cohesive button is produced at the bottom of the tube.
- The supernatant was poured out and a volume of 0.2 to 0.5 ml was left in the centrifuge tube.
- The sediment was re-suspended in the remaining supernatant by flicking the bottom of the tube several times.
- A drop of re-suspended sediment was poured onto a glass slide and was covered by cover slip.

RESULT AND DISCUSSION

Present study was undertaken in Quetta district of Balochistan. About 94 random urine samples of men and women were collected from the peoples belongs to ages of 15-67 years. All of them suffered by the mean of symptomatic and asymptomatic urinary tract infection.

In the present study, the symptomatic and asymptomatic UTI were observed and the obtained result showed that symptomatic UTI (60%) were more frequent than asymptomatic (39%), as shown in Figure 1, respectively. Moreover, the percentage of UTI in females was higher (63.82%) than that of males (36.17%), as shown Figure 2, respectively. A similar kind of study was conducted by Hooton et al. [7] who also reported that occurrence of UTI in young women were high compared to male that might be because the urethra which is the tube that transports urine from the bladder to the outside is shorter and also located close to the anus, So, the bacteria from the large intestine, such as E. coli, escape to the anus and invade the urethra. From there, they can travel up into the bladder and if this infection isn't treated than such infection can also infect the
Fig. 5: Shows percentage of urine tract infections among the different group.

kidneys. Women having sexual intercourse can also introduce bacteria into the urinary tract, too. Thus, in general, women are more susceptible to UTI infections due to their shorter length of urethra.

According to the obtained results, married peoples were more affected by UTI (68.08%) than that of single people (21.28%) as shown in Figure 3, respectively. Similar results were also reported by Nada et al. [11]. In additions, present study also revealed that risk of UTI among working peoples is less (44.68%) as compare to that of non-working peoples (55.32%) as shown in Figure 4, respectively.

Thus in general, the reasons for this high prevalence of UTI infection in different groups of women might be due to improper anal washing technique, using unsanitary pads during menstruation, malnutrition, vaginal discharge, pinworm infestation, presence of sexually transmitted diseases, financial burden and poor attention to children was a contributing factor among housewives and prolonged sitting was also contributing to UTI among working women as previously reported by Avasarala et al.[12].

CONCLUSION

Hence, our present study will provides useful information about the prevalence of urine tract infections among the different groups of peoples and furthermore, it is necessary to create awareness among the local populations about the main causes of UTI infection and this can bring about the reduction in risk factors of this infection.

REFERENCES