Urinary tract infections (UTIs) are a common type of infection caused by bacteria that travel up the urethra to the bladder. A bladder infection is called cystitis. If bacterial infection spreads to the kidneys and ureters, the condition is called pyelonephritis (Conway et al., 2007, Foster., 2008, Justice et al., 2006, Nicolle., 2008, U.S. 2008). Cystitis is considered a lower urinary tract infection. Pyelonephritis is an upper urinary tract infection and is much more serious. UTI is defined by the presence of a pure growth of more than 10^5 colony forming units of bacteria per milliliter of urine. Lower counts of bacteria may be clinically important, especially in boys, and in specimens obtained by urinary catheter. Any growth of typical urinary pathogens is considered clinically important if obtained by suprapubic aspiration. In practice, three age ranges are usually considered on the basis of differential risk and different approaches to management: children under 1 year; young children (1–4, 5, or 7 years, depending on the information source); and older children (up to 12–16 years). Recurrent UTI is defined as a further infection by a new organism (Conway et al., 2007, Foster., 2008, Justice et al., 2006, Nicolle., 2008, U.S. 2008). Relapsing UTI is defined as a further infection with the same organism. Boys are more susceptible to UTI than girls before the age of 6 months; thereafter, the incidence is substantially higher in girls than in boys (Jakobsson et al., 1999). Estimates of the true
incidence of UTI depend on rates of diagnosis and investigation (Jadresic et al., 1993; Jakobsson et al., 1999). The normal urinary tract is sterile. Contamination by bowel flora may result in urinary infection if a virulent organism is involved, or if the child is immunosuppressed. In neonates, infection may originate from other sources. *Escherichia coli* accounts for about 75% of all pathogens, *Proteus* is more common in boys (one study found that proteus caused 33% of UTI infections in boys aged 1–16 years, compared with 0% of UTI infections in girls aged 1–16 years). Obstructive anomalies are found in up to 4%, and vesicoureteric reflux in 8% to 40% of children being investigated for their first UTI (Dick et al., 1996). One meta-analysis of 12 cohort studies (537 children admitted to hospital for UTI, 1062 kidneys) found that 36% of all kidneys had parenchymal defects on dimercaptosuccinic acid (DMSA) scintigraphy and that 59% of children with vesicoureteric reflux on micturating cystourethrogram had at least one scarred kidney (pooled positive likelihood ratio 1.96, 95% CI 1.51 to 2.54; pooled negative likelihood ratio 0.71, 95% CI 0.58 to 0.85) (Wennerstrom et al., 2000). There was evidence of heterogeneity in likelihood ratios among studies. The authors concluded that vesicoureteric reflux is a weak predictor of renal damage in children admitted to hospital (Gordon et al., 2003). Thus, although vesicoureteric reflux is a major risk factor for adverse outcome, other factors, some of which have not yet been identified, are also important. Women are more prone to urinary tract infections than men, and these infections tend to recur. One reason is that the urethra (the tube that carries urine away from the bladder) is shorter in women than in men. Contraceptive spermicides and diaphragm use are other risk factors. When women reach menopause, the loss of estrogen thins the lining of the urinary tract, which increases susceptibility to bacterial infections. Pregnancy does not increase the risk of getting a urinary tract infection but it can increase the risk of developing a serious infection that could potentially endanger the mother and fetus (Foster, 2008, Perrotta et al., 2008). Symptoms of a UTI range from slight burning with urination or unusual-smelling urine to severe pain and high fever. A child with a UTI may also have no symptoms. A UTI causes irritation of the lining of the bladder, urethra, ureters, and kidneys, just as the inside of the nose or the throat becomes irritated with a cold. In infants or children who are only a few years old, the signs of a UTI may not be clear because children that young cannot express exactly how they feel. Children may have a high fever, be irritable, or not eat. On the other hand, children may have only a low-grade fever; experience nausea, vomiting, and diarrhea; or just not seem healthy (Lin, 2008, Schroeder et al., 2005, Shaikh et al., 2007, McGillivray et al., 2005, Mori et al., 2007). Children who have a high fever and appear sick for more than a day without signs of a runny nose or other obvious cause for discomfort should be checked for a UTI. Older children with UTIs may complain of pain in the middle and lower abdomen. Crying or complaining that it hurts to urinate and producing only a few drops of urine at a time are other signs of a UTI. Children may leak urine into clothing or bedsheets. If a kidney is infected, children may complain of pain in the back or side below the ribs (Lin, 2008, Schroeder et al., 2005, Shaikh et al., 2007, McGillivray et al., 2005, Mori et al., 2007). Throughout childhood, the risk of having a UTI is 2 percent for boys and 8 percent for girls. Having an anomaly of the urinary tract, such as urine reflux from the bladder back into the ureters, increases the risk of a UTI. Boys who are younger than 6 months old who are not circumcised are at greater risk for a UTI than circumcised boys the same age.

Some of the urine will be examined with a microscope. If an infection is present, bacteria and sometimes pus will be found in the urine. A urine culture should also be performed on some of the urine. The culture is performed by placing part of the urine sample in a tube or dish with a substance that encourages any bacteria present to grow. Once the bacteria have multiplied, which usually takes 1 to 3 days, they can be identified (Lin, 2008, Schroeder et al., 2005, Shaikh et al., 2007, McGillivray et al., 2005, Mori et al., 2007). The reliability of the culture depends on how the urine is collected and how long the urine stands before the culture is started. If the urine sample is collected at home, it should be refrigerated as soon as it is collected. The container should be carried to the health care provider or lab in a plastic bag filled with ice. The health care provider may also order a sensitivity test, which tests the bacteria for sensitivity to different antibiotics to see which medication is
best for treating the infection (Lin et al., 2008, Schroeder et al., 2005, Shaikh et al., 2007, McGillivray et al., 2005, Mori et al., 2007). Children with recurrent UTIs may be treated with preventative antibiotics that decrease the rate of microbiological recurrence but not symptomatic recurrence. These conclusions must be viewed in light of the poor quality of evidence available (Smaill, 2007, Michael et al., 2005, Warren et al., 1999, Zalmanovici et al., 2010).

Aims of present study was establish prevalence rates and comparative of urinary tract infection in Iranian girl children's during of 2009 and 2010 year.

**MATERIALS AND METHODS**

**Clinical Isolates**

A total of 1027 consecutive non-repeat culture isolates of urine cultures were obtained from urine clinical over a period of 24 months (April 2009 to December 2010). The isolates were identified on the basis of conventional microbiological procedures (Jalalpoor et al., 2007, 2009, 2011, Koneman et al., 2006, Washington et al., 2006).

**Culture Technique and Definitions**

Urine cultures were routinely obtained on children younger than 10 years of age. Urine specimens were then sent to the microbiology laboratory in sterile containers by pneumatic tube. Urine was refrigerated, if not plated, within 10 minutes of receipt. Standard quantitative culture was performed by laboratory technologists (Jalalpoor et al., 2007, 2009, Washington et al., 2006).

A loop calibrated to deliver approximately 0.001 mL was used to inoculate blood agar (Merck) and MacConkey (Merck) agar plates. All plates were incubated at 35°C and examined daily for growth for 2 days. A positive result was defined as growth of a single urinary tract pathogen at $10^4$ CFU/mL (Kathy et al., 1998).

**RESULTS**

According to result of this study in 2009 year, from 325 urine sample isolated from community, frequency of urinary tract infection in girl children was 5.1% and according to result of 2010 year, from 702 urine sample isolated from community, frequency of urinary tract infection in girl children was 5.3% (Fig 1).

**CONCLUSION**

Urinary tract infection (UTI) is one of the most common infections of childhood. It distresses the child, concerns the parents, and may cause permanent kidney damage. Characteristic symptoms of a urinary tract infection include pain with urination (dysuria), urinary frequency (needing to urinate frequently) and urgency (feeling a compelling urge to urinate) and loss of previously
established urinary control (for example, bedwetting). Nonspecific but common symptoms include fever (especially >102.2 F or 39 C) and abdominal pain. For some children less than 2 years of age, these more subtle problems may be the only indicator of a UTI. Associated symptoms of concern include flank pain, fever, and vomiting. Obvious blood in the urine (gross hematuria) as well as a positive family history for childhood urinary tract infections (especially in siblings) are also red flags and should raise the level of concern. Interestingly, the odor and color (with the exception of obvious blood) of the urine are not predictors of a UTI (Conway et al., 2007, Foster, 2008, Justice et al., 2006, Nicolle, 2008, U.S., 2008). Bladder infections are most common in young women with 10% of women getting an infection yearly and 60% having an infection at some point in their life (Nicolle, 2008). Pyelonephritis occurs between 18–29 times less frequently (Nicolle, 2008). According to the 1997 National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey, urinary tract infection accounted for nearly 7 million office visits and 1 million emergency department visits, resulting in 100,000 hospitalizations (Epidemiology, 2010). Nearly 1 in 3 women will have had at least 1 episode of urinary tract infections requiring antimicrobial therapy by the age of 24 years. The risk of urinary tract infection increases with increasing duration of catheterization. In non-institutionalized elderly populations, urinary tract infections are the second-most-common form of infection, accounting for nearly 25% of all infections (Epidemiology, 2010). The condition rarely occurs in men who are younger than 50 years old and who did not undergo any genitourinary procedure. However, the incidence of urinary tract infections in men tends to rise after the age of 50.

According to statistics from 1990, the prevalence of urinary tract infections in pre-school and school girls was 1% to 3%, nearly 30-fold higher than that in boys (The epidemiology, 2010). Also, the statistics from the same year show that approximately 5% of girls will develop at least one urinary tract infection in their school years. In what concerns the symptoms of the condition, bacteriuria appears to increase in prevalence with age in women, still being 50 times greater than the one in males. It is estimated that bacteriuria will be experienced by 20 to 50% of older women and 5 to 20% of older men (Gould et al., 2010, Jepson, 2008, Modgil, 2006, Perrotta et al., 2008, Williams et al., 2006). Community studies suggest that boys younger than 1 year of age and girls younger than 5 years of age are at risk for UTI. The literature estimates that the prevalence of UTI in febrile children presenting for outpatient evaluation ranges from 1% to 20% (Crain et al., 1990, Hoberman et al., 1993, Kathy et al., 1998). Observational studies have found that UTIs have been diagnosed in Sweden in at least 2.2% of boys and 2.1% of girls by age 2 years, (Jakobsson et al., 1999) in 7.8% of girls and 1.7% of boys by age 7 years, (Hellstrom et al., 1991) and in the UK in 11.3% of girls and 3.6% of boys by age 16 years (Coulthard et al., 1997). The studies vary in their definition of UTI, method of urine collection, and eligibility criteria. Most have small sample sizes, and none have been true prevalence studies in which data are collected on all children (Kathy et al., 1998).

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