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The relationship between urinary tract infection and low water intake and excessive consuming of fizzy drink

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Abstract
The urinary tract plays an important role in our daily health in removing toxins, in ensure that body absorbs the adequate amount of water, keeping body hydrated to help flush out and eradicate bacteria from the urinary tract. This manuscript is aim to find the effect of low water intake and the effect of excessive consuming of fizzy drink on producing urinary tract infection. 200 individuals who recommended by physicians to general urine examination in Shaqlawa Hospital- Kurdistan region / Iraq were investigated; the analysis included three areas of concern: the exact amount of water consumption each day by the patient, the exact amount of fizzy drink consumption by the patient and the laboratory report for each patient. Lab reports show great difference between patients who used to consume sufficient amount of water daily and patient who don't retain drinking sufficient amount of water daily. Lab report show that patient who accustomed consume fizzy drink in excessive amount are having severe urinary tract infection representative by bacteria, pus cell, RBC and epithelial cell, patient who don't consume fizzy drink or patient who not use to consume fizzy drink were less infected.

Keywords: Water, Fizzy, drink, Kidney, Sugar, Bacteria

1. Introduction

Urinary tract is divided into an upper and lower part. The upper urinary tract composed of the kidneys and ureters. The lower urinary tract comprise the bladder, sphincter, urethra and, in men, the prostate gland as well. The kidneys produce urine which is transported by the ureters into the bladder.

1. Normally urinary bladder has two functions, storage and emptying of the urine. The bladder assumed to fill to an adequate level and to empty completely, periodically and voluntarily
2. Other function aspects of urinary tract include regulating the concentrations of various electrolytes in the body fluids and maintaining normal pH of the blood. Several body organs carry out excretion, but the kidneys are the most important excretory organ.
3. According to the National Kidney Foundation, one in five women will have at least urinary tract infection UTI in her lifetime — 20 percent of whom will have more than one. In fact, UTIs result in nearly 10 million doctor visits each year. A urinary tract infection occurs when bacteria enter the urinary tract. The bacteria cause irritation, which often results in painful urination and even abdominal pain.
4. The amount of water required to be consume vary from person to person according to their activity and how much they sweat. Here is no universally approved upon threshold of water consumption that must be obtained, but there is a general level of consensus as to what a healthy amount is.
5. Water homeostasis depends on fluid intake and preservation of body water balance by regulation of renal excretion under the manager of arginine vasopressin hormone. Human kidney manages more efficiently fluid excess than fluid deficit. the ability of kidney for handling water are large but unequal, Water conservation is critical for life in a dry climate, and, as soon as total body water content decreases, neurons within hypothalamic nuclei secrete AVP; AVP is then stored in the posterior pituitary until it is released.
6. Dehydration can trigger a urinary tract infection; insufficient hydration can put stress on the kidneys, heart and immune system. When the immune system is compromised, bacteria can multiply much easier in the urinary tract. The chemicals in soft drinks can make it easier for the organisms to colonize on the wall of the urinary bladder. Additives in foods, such as high fructose, caffeine, alcohol can increase the likelihood to developing urinary tract infection.
7. Fizzy drink as a type of carbonated beverages is typically sweetened with sugar in the form of high-fructose corn syrup. A study published in 2010 in the journal Kidney International reported that the high amounts of HFCS in soda can raise uric acid levels. Even though Diet Soda does not contain sugar, synthetically sweetened soda beverages may be linked to kidney damage. Research published in 2010 in the Clinical Journal of the American Society of Nephrology reported that women who drank two or more servings of diet soda per day showed a 30 percent decline in kidney filtration rates.
8. This manuscript is aim to find the effect of low water intake and the effect of excessive consuming of fizzy drink on producing urinary tract infection.

2. Methodology

200 individuals who recommended by physicians to general urine examination in Shaqlawa Hospital- Kurdistan region / Iraq were investigated, a detailed medical history and review of systems were obtained furthermore no visitor received the survey more than once, so the aggregate results represent unique individual respondents. The analysis included three areas of concern: the exact amount of water consumption each

day by the patient, the exact amount of fizzy drink consumption by the patient and the laboratory report for each patient.

3. Result

In this investigation patient were separated into three groups, first patient who neglecting to drink water or drink less than 2 cups per day which represent 42% of investigated patients, second patient who drink 2 cups or more but still under the general level of consensus those represent 31.5% of investigated patient, third patient who accustomed to maintain ample amounts of water, those represent only 26.5% of total investigated patient. Fig.1 shows the average water consumption per day by patients.

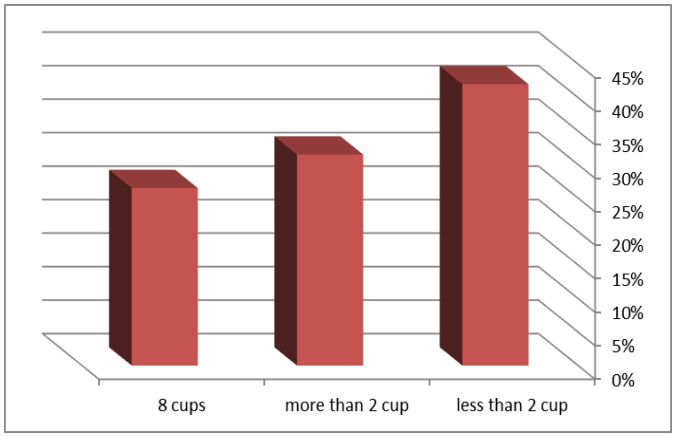

Fig 1: the average water consumption per day by patients

Investigation also show that 23% of patient were abstinent from taking fizzy drink, 20% were drinking very little amount on special occasions, 30% were regularly taking fizzy drink at least one can per day, 27% were consuming fizzy drink excessively in which patient were taking two can per day or more. Fig.2 show the average fizzy drink drunk per day by patients

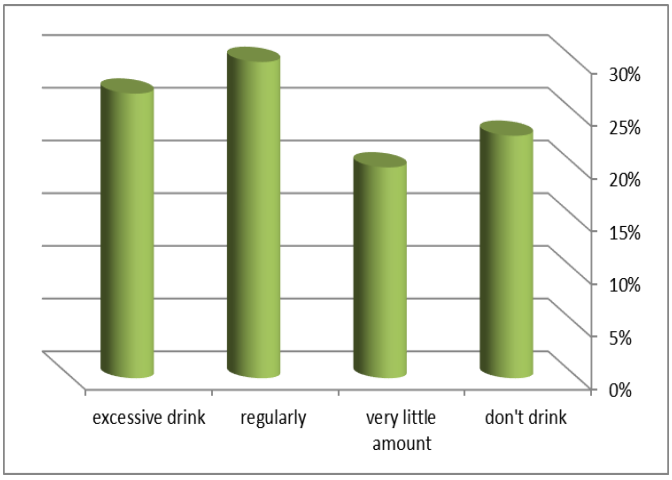

Fig 2: the average fizzy drink drunk per day by patients

Lab report show that patient who accustomed to neglect drinking water are having severe urinary tract infection representative by bacteria, pus cell, RBC and epithelial cell, patient who used to drink sufficient amount of water were less infected. Fig.3 show the lab report of patients according to the amount of water consumption

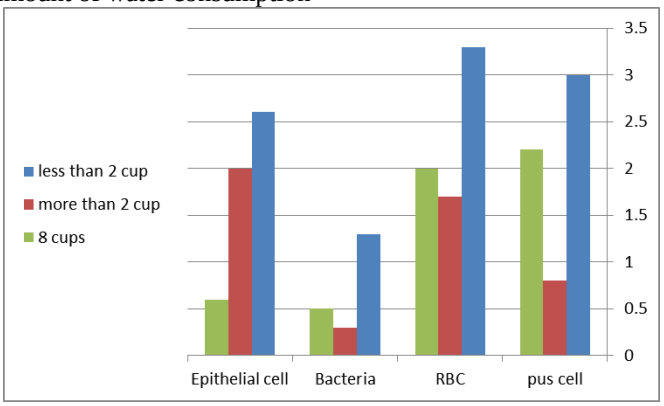

Fig 3: The lab report of patients according to the amount of water consumption

Lab report show that patient who accustomed consume fizzy drink in excessive amount are having severe urinary tract infection representative by bacteria, pus cell, RBC and epithelial cell, patient who don't consume fizzy drink or patient who not use to consume fizzy drink were less infected. Fig.4 show the lab reports of patients according to the amount of fizzy drink consumption

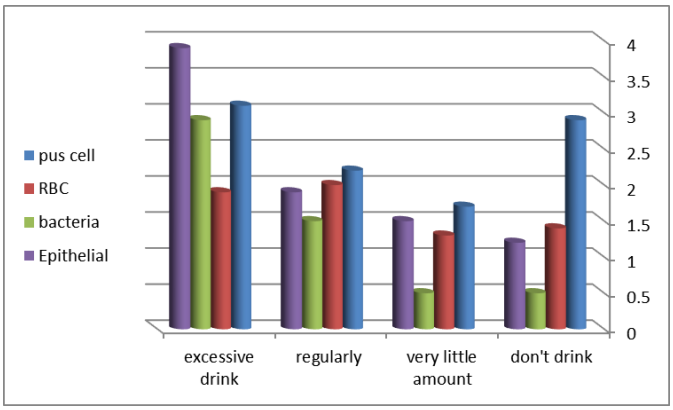

Fig 4: The lab report of patients according to the amount of fizzy drink consumption

4. Discussion

Lab reports show great difference between patients who used to consume sufficient amount of water daily and patient who don't retain drinking sufficient amount of water daily. It is also obvious from lab report that consuming large volumes of fluid within a short period of time and fizzy drinks can cause rapid filling of the bladder leading to frequency and urgency. Drinks should be spaced evenly through the day

9. Water is one of the best fluids to drink. Cranberry juice is also often recommended for its ability to acidify urine, which discourages multiplication of bacteria. Orange juice and most carbonated soft drinks are not recommended, but small amounts may be consumed.
10. Data from a population-based case-control interview study of incident bladder cancer in 10 areas of the United States were used to estimate relative risks according to beverage intake level and type of water source. Individual year-by-

year profiles of water source and treatment were developed by linking lifetime residential
11. Fizzy drinks is high in sugar, which can encourage bacteria to grow. Thus, people with regular urinary tract infections; must reduce the amount of consuming fizzy drinks. They may also find it helps to reduce the amount of overall sugar in their diet.
12. Many people in Atlanta are concerned about bladder and urinary tract infections. Sodas don't actually cause bladder infections, but they can cause some problems.
13. Items like coffee, artificial sweeteners carbonated made symptoms worse
14. Soda can cause bladder irritation because it contains caffeine. All caffeinated products, and even some decaffeinated products, can cause bladder irritation. Bladder irritation can lead to chronic bladder infections and incontinence, or difficulty urinating. Caffeine acts like a diuretic, which causes your bladder to fill more quickly than other beverages, according to WomensHealth.gov. The quicker your bladder fills, the more you will have to urinate. This can irritate your bladder because of the excess stimulation that it's not accustomed to. Since caffeine causes your bladder to fill quickly, it can also cause bladder leakage. The Mayo Clinic names caffeine specifically as a bladder irritant.
15. Drinking soft drinks to be moderately associated with both initial and recurrent UTI.

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