# SUMMARY

The major health consequences of kidney disease include not only progression to kidney failure but also an increased risk of cardiovascular disease.

A major question for renal medicine in developing countries is how to define strategies that can identify early enough those subjects who are at risk of developing a renal disease later in life. This will make it possible to design population oriented preventive measures that will limit the need for dialysis and transplantation.

Mass school urine screening program can detect renal diseases in early stage. Early recognition and treatment of renal diseases-related complications lead to improve growth, development and the quality of life in children with this condition.

Mass urinary screening helps to determine the prevalence of renal diseases. American Academy of Pediatrics recommends a screening dipstick urinalysis at the age of 5 in preschool children. Mass urine screening program was applied in a number of Asian countries.

Our study was undertaken to detect the prevalence of asymptomatic urinary abnormalities among primary and preparatory school students in Al-Gharbya Governorate, from April 2011 to June 2011 . One thousand healthy students were included in this study, 414 boys (41.4%) and 586 girls (58.6%), the age of the students ranged from 6 to 15 years.

Urinary screening was performed with the dipstick test to the studied students, and they were re-examined again after 2 weeks. 160 students (16%) had urinary abnormalities in the first screening. Isolated hematuria was found in 44 students (4.4%), isolated proteinuria in 47 students

(4.7%), combined hematuria and proteinuria in 4 students (0.4%), nitrite in 7 students (0.7%), pyuria in 38 students (3.8%) , combined hematuria and pyuria in 15 students (1.5%) ,combined pyuria and proteinuria in 3 students (0.3 %) ,combined pyuria and nitrite in one student (0.1 %) and combined hematuria ,pyuria and nitrite in one student (0.1 %) .

Of these 160 students only 36 (3.6 %) had persistent urinary abnormalities in the second test. Isolated hematuria was found in 19 students (1.9 %), Isolated proteinuria in 1student (0.1%) ,pyuria in 9 students (0.9 % ) ,combined proteinuria and pyuria in 2 students (0.2 %) and combined hematuria and pyuria in 5 students (0.5 %) .

Complete urine examination was performed to 36 students (3.6 %) with persistent abnormal finding by dipstick test. Only 31 students (3.1%) had urinary abnormalities.

Among them 15 students (1.5%) had isolated hematuria , 16 student (1.6%) had pyuria, 31 students (3.1%) had crystaluria and none had glucosuria or proteinuria.

Urine culture was performed to 16 students (1.6%) with pyuria, it was positive in only one of them (0.1 % ). The causative organism was Staphylococcus Saprophyticus .

Abdominal ultrasound was normal in all studied students.

As regards blood pressure of the 36 students with abnormal urinary findings, non had systolic or diastolic hypertension .

As regards weight and height of the 36 students with abnormal urinary findings, only one student (0.1 %) was under weight,3 students were overweight (0.3 %) and 5 students had short stature( 0.5 %) .

The prevalence of urinary abnormality detected by complete urine examination ± urine culture among the studied students was (3.1%)

The positive predictive value of the screening test was (86.1%) it has an important role in the study of cost-effectiveness of the screening test.

There was highly significant difference observed in the prevalence of urinary abnormalities between boys and girls (P value < 0.01 ),but there was not significant difference in prevalence of urinary abnormalities according to age (P value > 0.05).

Our conclusions that asymptomatic urinary abnormalities might be detected by the school screening program, a way for early management of some renal diseases. Screening tests must be done twice with 2 weeks interval to improve the specificity of the dipstick test, avoided the interference of exercise, emotional stress, or menstruation, and detect persistent urinary abnormalities. Follow up of patients with confirmed abnormal urine examination, as some of these diseases may be reversible, recurrent or progressive.

Our recommendations that start the mass screening of all students in Egypt. An effective screening program must use an acceptable test (dipstick test) that can accurately detect relatively asymptomatic disease at an early stage, with low risk and less cost. Further studies to measure the cost-effectiveness of applying the dipstick test as a screening tool.