RESULTS

Table (1): Age distribution among the studied students

Age in years	No.	%
6	54	5.4
7	101	10.1
8	55	5.5
9	54	5.4
10	79	7.9
11	108	10.8
12	173	17.3
13	178	17.8
14	187	18.7
15	11	1.1
Total	1000	100

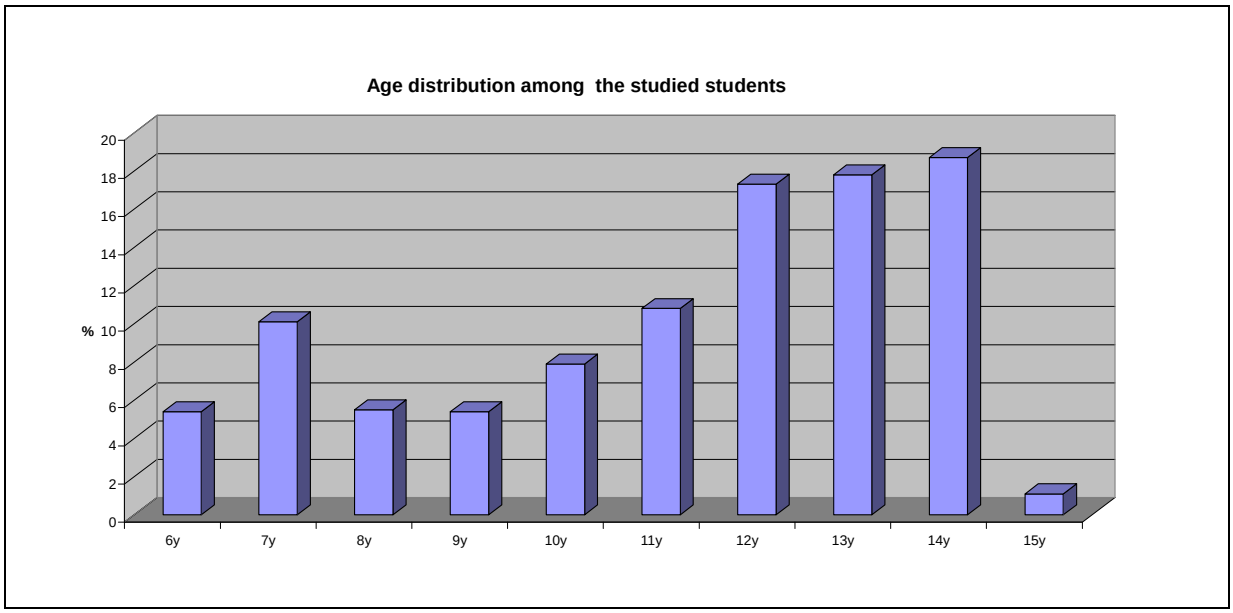


Figure (4): Age distribution among the studied students

Table (1) and figure (4) show the age distribution among the studied students.

Table (2): Sex distribution among the studied students

	No.	%
boys	414	41.4
girls	586	58.6
total	1000	100

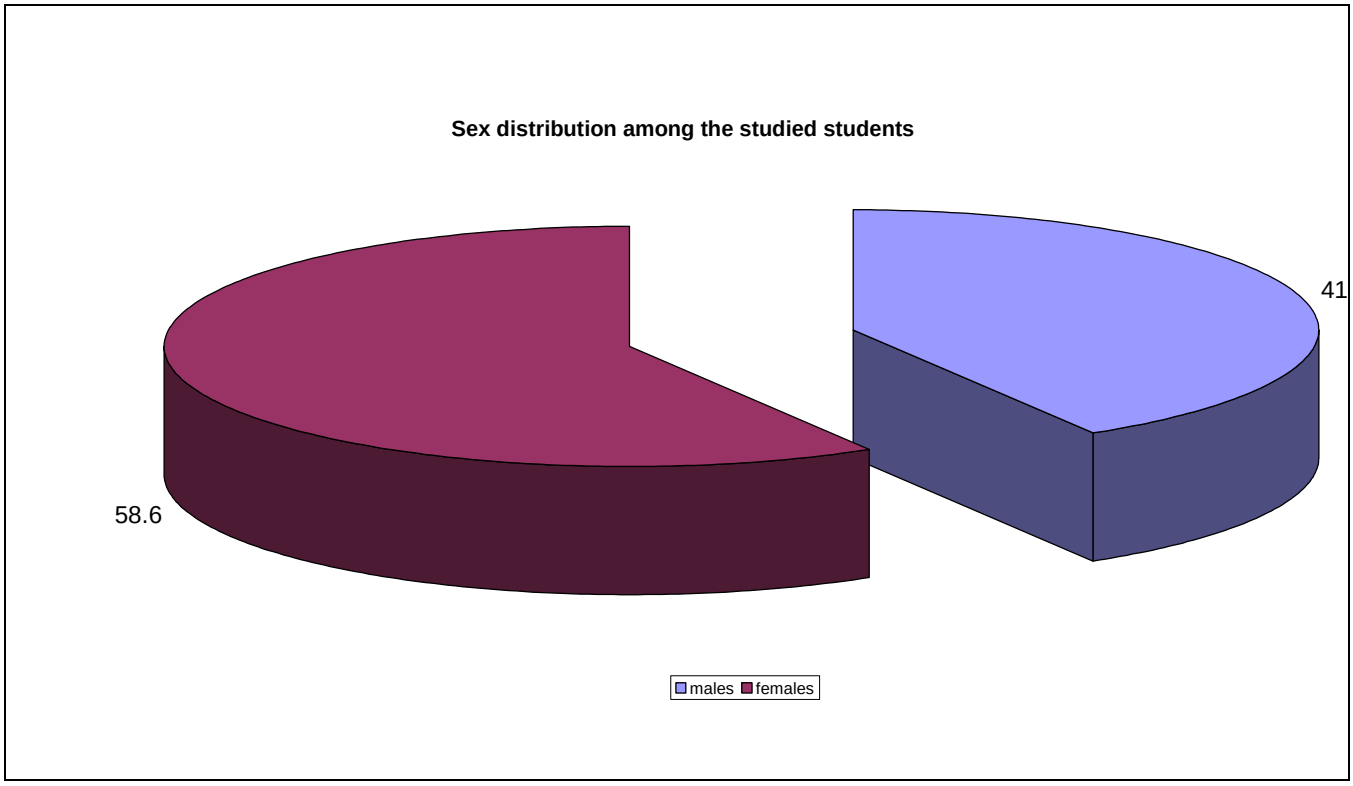
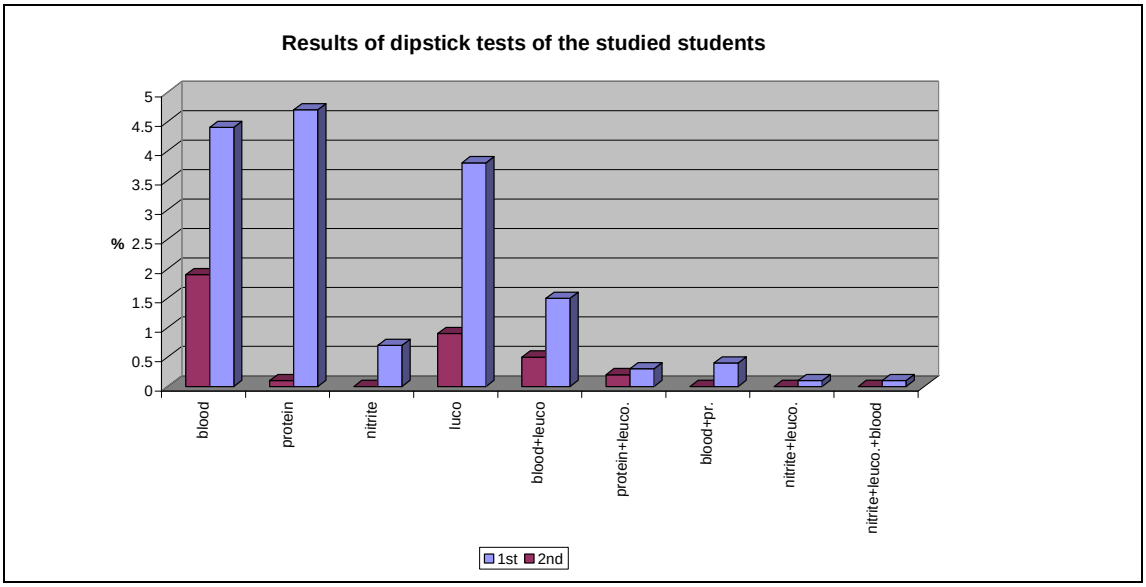


Figure (5): Sex distribution among the studied students

Table (2) and figure (5) show that the study was carried out on 414 (41.4 %) boys and 586 (58.6 %) girls.

Table (3): Results of the dipstick tests of the studied students.

Positive results	Initial dipstick test		2nd dipstick test after 2 weeks	
	No	%	No	%
Blood	44	4.4	19	1.9
Protein	47	4.7	1	0.1
Both blood and protein	4	0.4	0	0
Glucose	0	0	0	0
Nitrite	7	0.7	0	0
Leukocyte	38	3.8	9	0.9
Blood and leucocytes	15	1.5	5	0.5
Protein and leucocytes	3	0.3	2	0.2
Nitrite and leucocytes	1	0.1	0	0
Blood ,leucocytes and nitrite	1	0.1	0	0
Any urinary abnormality	160	16	36	3.6



(pr: protein , leuco: leucocytes)

Figure (6): Results of the dipstick tests of the studied students.

Table (3) and figure (6) show the results of the screening by dipstick test.

In the first screening, initial urine samples were obtained from 1000

students. Among these samples, 160 (16 %) showed abnormal urinary results.44 students (4.4%) showed positive results for blood, 47 (4.7 %) positive for protein, 4 (0.4 %) positive for both blood and protein, 7 (0.7 %) positive for nitrite, and 38 (3.8%) had leukocyturia .

Re-examinations by dipstick test after two weeks, urine samples were obtained from 160 students. Among these samples, 36 students (3.6 % from total students studied) showed abnormal urinary results. 19 students (1.9 %) showed positive results for blood, 9(0.9%) positive for leucocytes ,5(0.5%) positive for blood and leucoytes,2(0.2%) positive for protein and leucocytes, and one (0.1 %) had isolated proteinuria

Table (4): Sociodemographic characters of the studied students.

	Positive results n = 36	**Negative results** n = 964	**P. value**
	mean ± SD	mean ± SD	
Age	10.1 ± 2.6	11± 1.2	> 0.05
Sex			
Bosys	3 (8.3%)	411 (42.6%)	< 0.01
Girls	33 (91.7%)	553 (57.4%)	< 0.01

(n: number, SD: standard deviation)

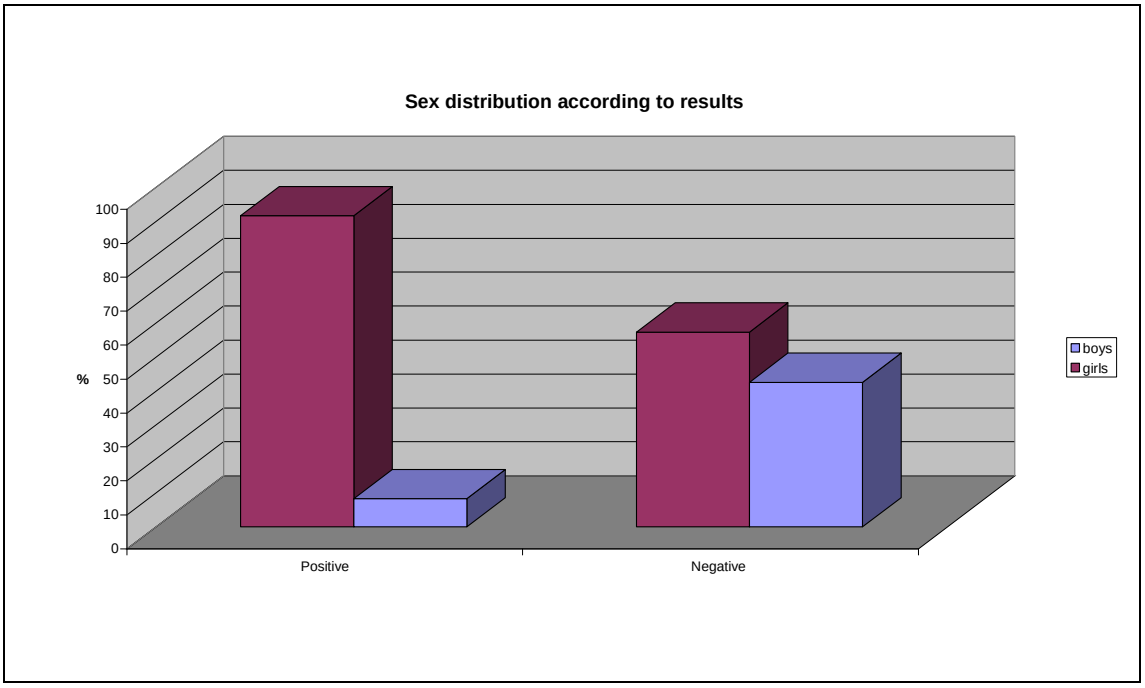


Figure (7): Sex distribution according to results

Table(4) and figure(7) show that the mean age was found to be lower among children with positive results compared to normal children, the difference was not statistically significant (P > 0.05).

There was statistically significant difference between children with positive results compared to normal children as regards their sex ($P < 0.01$).

Also the positive results of girls appear highly increased compared to positive results of boys .

Table (5): Clinical data of students with persistent abnormal urinary finding by dipstick test.

ID	Age /years	sex	Blood pressure /mmHg	Weight /kg	Height /cm
1	6	girl	80/50	20	110
2	6	girl	100/50	30	115
3	6	girl	100/80	33	115
4	7	girl	90/60	23	110
5	7	girl	90/60	30	120
6	6	boy	80/50	20	110
7	6	girl	80/50	22	110
8	6	girl	80/50	21	112
9	9	girl	80/50	20	110
10	9	girl	80/50	31	120
11	9	girl	100/70	33	117
12	9	girl	100/60	52	132
13	10	girl	100/70	39	130
14	10	girl	120/70	35	125
15	11	girl	90/60	32	132
16	11	girl	80/50	36	131
17	11	girl	100/70	35	133
18	11	girl	100/70	46	140
19	12	girl	90/60	45	152
20	12	girl	110/70	53	150
21	12	girl	120/70	60	152
22	11	girl	110/70	41	130
23	11	girl	110/70	38	145
24	13	girl	90/60	50	142
25	13	girl	110/80	75	144
26	13	girl	100/70	50	140
27	13	girl	110/70	49	142
28	13	girl	100/60	44	140
29	13	girl	100/70	45	141
30	13	boy	110/70	45	147
31	13	boy	90/60	45	148
32	9	girl	90/60	33	132
33	11	girl	100/60	36	140
34	11	girl	110/70	37	150
35	12	girl	120/80	46	152
36	12	girl	110/70	45	150

(ID :identity or identification)

Table (5) shows the clinical data of 36 students (3.6 %) with persistent abnormal urinary finding by dipstick test. Among them only one student (0.1 %) was under weight (weight < 3 rd percentile for age), 4 students (.4%) were over weight (weight > 97 th percentile for age) and 7 students (0.7 %) had short stature (height < 3 rd percentile for age) according to Egyptian Growth curves 2-21 years (**Diabetes Endocrine Metabolism Pediatric Unit Cairo University Children's Hospital 2008**).

None of students had systolic or diastolic hypertension according to blood pressure percentile curves (**Report of the Second Task Force 1987:** on Blood Pressure Control in Children. Pediatrics 79:1).

Abdominal ultrasound was normal in all studied students.

Table (6): Comparison of clinical and laboratory data between boys and girls.

	Boys n =3	**Girls** n =33	**t. test**	**P value**
	Mean ± SD	mean ± SD		
Age	10.7 ± 4.1	10.2± 2.4	0.21	> 0.005
Systolic blood pressure	90 ± 17.3	98.9 ± 17.6	0.87	> 0.005
Diastolic blood pressure	56.7 ± 11.5	64.8 ± 10.3	1.18	> 0.005
Weight	36.7 ± 14.4	38.9 ± 12.1	0.26	> 0.005
Height	135 ± 21.6	132.3 ± 14.3	0.21	> 0.005

(n: number , SD: standard deviation)

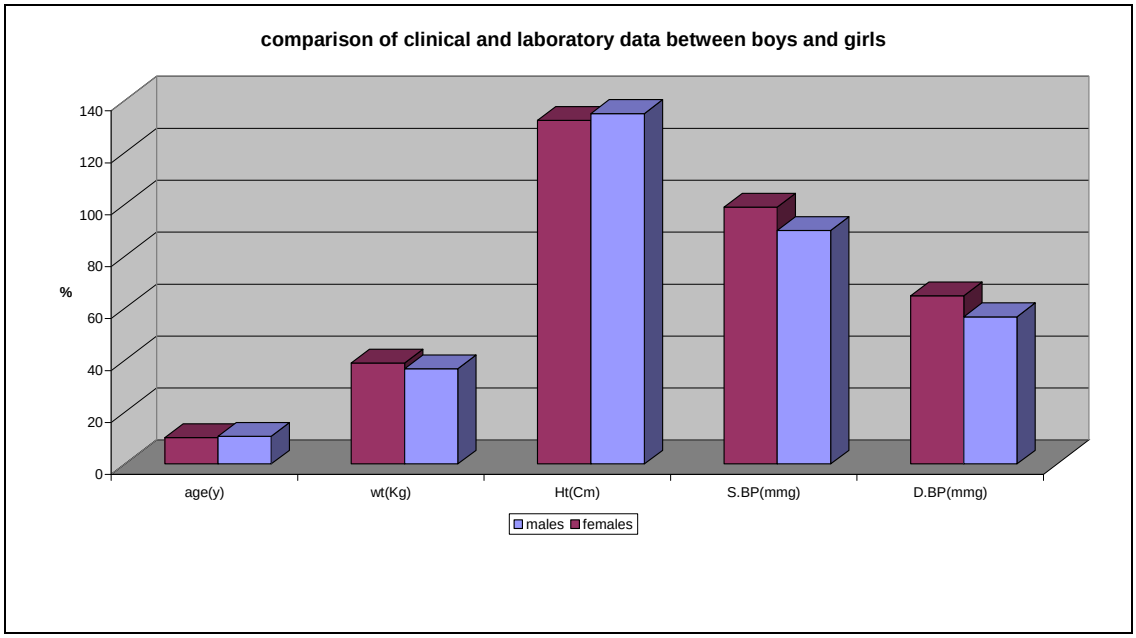


Figure (8): comparison of clinical and laboratory data between boys and girls

Table (6) and figure (8) show that, there was no statistically significant difference between boys and girls as regards their age, blood pressure, weight and height.

Table (7): Abnormal urinary findings in complete urine examination and urine culture results.

No.	ID	RBCs /HPF	Protein	Pus cells /HPF	Glucose	Crystals	Urine culture
1	1	1-2	-	0-1	-	Urate &uric acid	-
2	2	0-1	-	20-25	-	Urate	-
3	3	7-10	-	0-1	-	Uric acid	-
4	4	15-20	-	0-1	-	Urate	-.
5	5	5-6	-	20-25	-	Urate	Staph.saprophyticus
6	6	5-6	-	0-1	-	Uric acid	-
7	7	1-2	-	15-20	-	Urate	-
8	8	15-20	-	1-2	-	Urate	
9	9	1-2	-	15-20	-	Urate	
10	10	0-2	-	20-25	-	Uric acid	
11	11	0-2	-	10-12	-	Urate	
12	12	1-2	-	12-15	-	Urate	
13	13	0-1	-	20-25	-	Urate	
14	14	7-8	-	10-12	-	Uric acid	
15	15	7-8	-	8-10	-	Urate	
16	16	4-5	-	10-12	-	Urate	
17	17	5-6	-	7-8	-	Urate	
18	18	15-20	-	0-1	-	Urate	
19	19	0-2	-	0-1	-	Urate	
20	20	0-1	-	1-2	-	Uric acid	
21	21	1-2	-	1-2	-	Uric acid	
22	22	0-1	-	0-1	-	Uric acid	
23	23	7-8	-	0-1	-	Uric acid	
24	24	5-6	-	1-2	-	Uric acid	
25	25	0-2	-	5-6	-	Uric acid	
26	26	1-2	-	15-20	-	Urate	
27	27	5-6	-	0-1	-	Urate	
28	28	10-12	-	7-8	-	Urate	
29	29	10-12	-	10-12	-	Uric acid	
30	30	0-1		0-1		Ca-oxalate	
31	31	0-2	-	1-2	-	Ca-oxalate	
Total		15	0	16	0	31	1

(ID: identity or identification)

Table (7) shows the results of complete urine examination and urine culture were done to 36 students (3.6 %) with persistent abnormal findings by dipstick test. 31 students (3.1 %) had positive abnormal findings. Among them 15 students (1.5 %) were positive for RBCs (RBCs ≥5/HPF), none had isolated proteinuria (protein ≥+1), 16 students (1.6 %) had pyuria (pus cells≥5 /HPF), and 31 students (3.1 %) were positive for crystals.

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

The number of students with persistent abnormal urinary findings by screening dipstick test was 36 students, and the number of students with abnormal urinary findings in complete urine examination was 31 students. So, the prevalence of urinary abnormality among the studied students detected by complete urine examination was (3.1%). The positive predictive value of the screening test = (31/36×100) = (86.1%) .

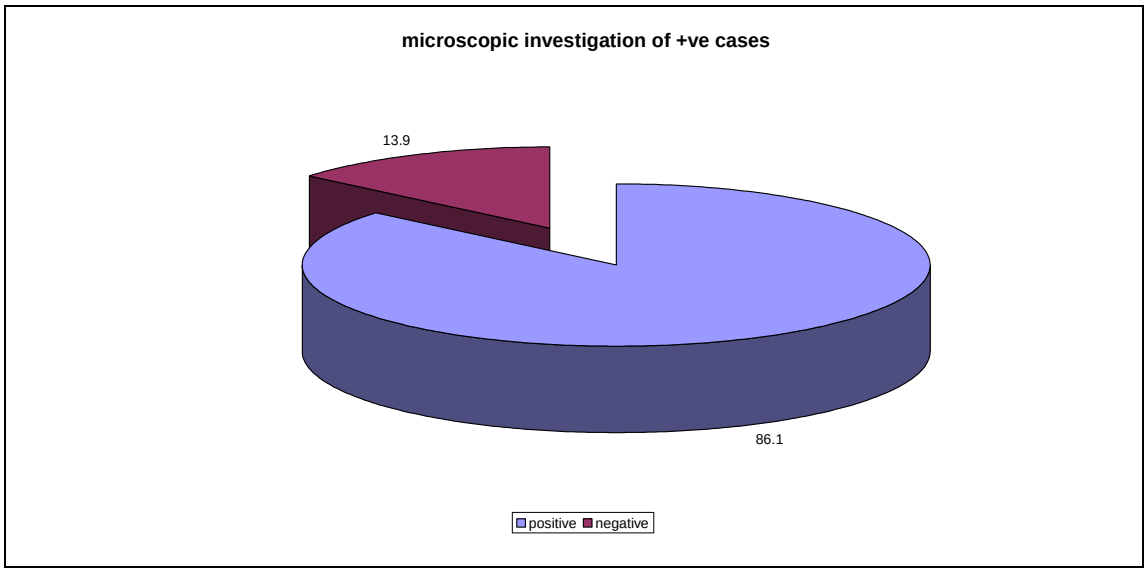


Figure (9): Microscopic examination of positive cases by secondary dipstick test