RESULTS

Table (10): Age and sex distribution of patients and controls.

	Patients		Controls	
	Group A	Group B	Group C	Group D
Age (years)	7.8 ± 2.9 4 -15		7.6 ± 2.9 4 - 14	
$\bar{X}$ ± SD (years)	7.4 ± 2.1	8.5 ± 3.2	7.8 ± 2.8	7.8 ± 2.6
Range (years)	4 - 12	4 -15	4 - 15	4 -12
Gender				
Male No %	14 (70%)	14 (70%)	16 (80%)	15 (75) %
Female No %	6 (30%)	6 (30%)	4 (20%)	5 (25) %

Table (11) Distribution of certain factors related to asthma among patients .

Variables	Patient (No)		t	Significance
	Group A	Group B		
A- History of asthma				
Age of onset of asthma				
$\bar{X} \pm$ SD (years)	2.8 ± 1.2	3.2 ± 1.9	0.8	P > 0.05
Range (years)	1 -5	2 - 7		N.S
No. of attacks / years				
$\bar{X} \pm$ SD (years)	16.2 ± 3.2	9.8 ± 2.2	7.2	P < 0.0001
Range (years)	10 - 23	6 -14		H.S
B- History of passive smoking				
Number of cigarette/day	8 - 40			
Range	21.7 ± 10.1			
Duration of smoking /	2 -8			
(years)	5.1 ± 1.8			

Table (12) Respiratory symptoms during last year in the studied groups.

	Patients				Controls				X^2	P
	Group A No	%	Group B No	%	Group C No	%	Group D No	%		
Sneezing	9	45.0	5	25.0	3	15.0	1	5.0	10.04	P < 0.5 Sig
Rhirnorrhea	8	40.0	5	25.0	4	20.0	2.	10.0	5.2	P > 0.5 N.S
Chronic productive cough	12	60.0	10	50.0	4	20.0	0	0.0	17.6	P < 0.001 H.S
Chest wheeze	8	40.0	6	30.0	1	5.0	0	0.0	14.7	P < 0.001 H.S
Dyspnea	6	30.0	5	25.0	0	0.0	0	0.0	12.9	P < 0.001 H.S

Table (13) Distribution of asthmatic children according to the presence of respiratory symptoms during last year.

	Group A		Group B		X^2	P
	No	%	No	%		
Sneezing	9	45.0	5	25.0	1.8	> 0.5 N.S
Rhirnorrhea	8	40.0	5	25.0	1.03	> 0.5 N.S
Chronic productive cough	12	60.0	10	50.0	0.40	> 0.5 N.S
Chest wheeze	8	40.0	6	30.0	0.4	> 0.5 N.S
Dyspnea	6	30.0	5	25.0	0.13	> 0.5 N.S

Table (14) : Pulmonary function among studied children.

	Patients		Controls		F	P
	Group A 20	Group B 20	Group C 20	Group D 20		
FVC % pred. ($\overline{X} \pm SD$)	79.3 ± 3.8	86.2 ± 8.3	89.1 ± 6.2	96.6 ± 6.8	24.5	0.0001 H.S
FEV1 % pred. ($\overline{X} \pm SD$)	62.3 ± 6.3	73.6 ± 7.2	80.1 ± 7.7	90.9 ± 8.3	52.0	0.0001 H.S
FEV1 / FVC ($\overline{X} \pm SD$)	78.4 ± 6.2	85.9 ± 4.9	88.8 ± 5.7	93.1 ± 5.2	24.5	0.0001 H.S
FEF 25.75 % ($\overline{X} \pm SD$)	63.6 ± 11.9	71.0 ± 7.7	75.0 ± 8.6	84.5 ± 8.1	17.6	0.0001 H.S
PEFR ($\overline{X} \pm SD$)	55.6 ± 18.6	77.4 ± 10.3	85.6 ± 15.4	91.3 ± 8.3	25.8	0.0001 H.S

Table (15): Comparison between different groups regarding to FVC % pred.

		Patients		Controls	
		Group A 79.3 ± 3.8	Group B 86.2 ± 8.3	Group C 89.1 ± 6.2	Group D 96.6 ± 6.8
Group (B)	t p	3.3 < 0.01 H.S			
Group (C)	t p	6.0 < 0.001 H.S	1.2 > 0.05 N.S		
Group (D)	t p	9.8 < 0.001 H.S	4.3 < 0.001 H.S	3.6 < 0.001 H.S	

Table (16): Comparison between different groups regarding to FEV1

		Patients		Controls	
		Group A **62.3 ± 6.3**	**Group B** **73.6 ± 7.2**	**Group C** **80.1 ± 7.7**	**Group D** **90.9 ± 8.3**
Group (B)	t p	5.3 < 0.001 H.S			
Group (C)	t p	7.9 < 0.001 H.S	2.7 < 0.01 H.S		
Group (D)	t p	12.3 < 0.001 H.S	7.0 < 0.001 H.S	4.3 < 0.001 H.S	

Table (17): Comparison between different groups regarding to FEV1 / FVC.

		Patients		Controls	
		Group A **78.9 ± 6.2**	**Group B** **85.9 ± 4.9**	**Group C** **88.8 ± 5.7**	**Group D** **93.1 ± 5.2**
Group (B)	t p	4.2 < 0.001 H.S			
Group (C)	t p	5.4 < 0.001 H.S	1.6 > 0.05 N.S		
Group (D)	t p	8.0 < 0.001 H.S	4.4 < 0.001 H.S	2.5 < 0.05 Sig.	

Table (18): Comparison between different groups regarding to FEF $_{25-75\%}$

		Patients		Controls	
		Group A 63.6 ± 11.9	**Group B 71.0 ± 7.7**	**Group C 75.0 ± 8.6**	**Group D 84.5 ± 8.1**
Group (B)	t	2.3			
	p	< 0.05			
		Sig			
Group (C)	t	3.5	1.6		
	p	< 0.001	> 0.05		
		H.S	N.S		
Group (D)	t	6.4	5.4	3.4	
	p	< 0.001	< 0.001	< 0.01	
		H.S	H.S	H.S	

Table (19): Comparison between different groups regarding to PEFR.

		A 55.6 ± 18.6	B 77.4 ± 10.3	C 85.6 ± 15.4	D 91.3 ± 8.3
Group (B)	t p	4.5 < 0.001 H.S			
Group (C)	t p	5.6 < 0.001 H.S	1.97 > 0.05 N.S		
Group (D)	t p	7.8 < 0.001 H.S	4.7 < 0.001 H.S	1.5 > 0.05 N.S	

Table (20) Means of urinary cotinine and cotinine/creatinine ratio in different groups.

	A $\overline{X}$ ± S.D	B $\overline{X}$ ± S.D	C $\overline{X}$ ± S.D	D $\overline{X}$ ± S.D	F	P
Cotinine μ g/L	42.4 ± 14.1	2.25 ± 1.5	3.3 ± 1.2	1.6 ± 1.3	157.4	0.001 H.S
Cotinine/ Creatinine Ratio μ g/g	42.1 ± 13.8	2.29 ± 1.8	3.7 ± 1.7	1.7 ± 1.6	156.2	0.001 H.S

Table (21) Comparison of urinary cotinine in the four studied groups.

		A	B	C	D
Group (B)	t p	12.6 < 0.001 H.S			
Group (C)	t p	12.4 < 0.001 H.S	2.5 < 0.5 Sig.		
Group (D)	t p	12.8 < 0.001 H.S	1.4 > 0.5 N.S	4.3 < 0.001 H.S	

Table (22) Comparison of the urinary cotinine/creatinine ratio in the four studied groups.

		A	B	C	D
Group (B)	t p	12.7 < 0.001 H.S			
Group (C)	t p	12.4 < 0.001 H.S	2.6 < 0.5 Sig.		
Group (D)	t p	12.9 < 0.001 H.S	10.6 > 0.5 N.S	3.8 < 0.001 H.S	

Table (23) Correlation between pulmonary parameters and urinary cotinine among different groups.

	A		B		C		D	
	r	p	r	p	r	p	r	p
FVC	- 0.69	< 0.05 Sig	- 0.03	> 0.05 NS	- 0.18	> 0.05 NS	- 0.11	> 0.05 NS
FE V1	- 0.65	< 0.05 Sig	- 0.12	> 0.05 NS	- 0.09	> 0.05	- 0.19	> 0.05 NS
FEV1/ FVC	- 0.08	> 0.05 NS	- 0.28	> 0.05 NS	- 0.09	> 0.5 NS	- 0.25	> 0.05 NS
FEF	- 0.41	> 0.05 NS	- 0.0	> 0.5 NS	- 0.04	> 0.5 NS	- 0.05	> 0.05 NS
PEFR	- 0.04	> 0.05 NS	- 0.33	> 0.5 NS	- 0.17	> 0.5 NS	- 0.14	> 0.05 NS

Table (24): Means of IgE in the four studied groups

	Mean ± SD	Range	F	P
Group (A)	536.5 ± 171.9	230 – 900	52.5	<0.001
Group (B)	327.9 ± 88.8	135 – 525		
Group (C)	220.5 ± 43.3	170 – 290		
Group (D)	168.6 ± 32.4	100 – 270		

Table (25): Correlation between pulmonary parameters and IgE in the four studied groups

Pulmonary parameter	Group (A)		Group (B)		Group (C)		Group (D)	
	r	p	r	p	r	p	r	p
FVC	-0.15	>0.05	-0.20	>0.05	0.41	>0.05	0.13	>0.05
FEV_1	-0.20	>0.05	-0.12	>0.05	0.30	>0.05	0.03	>0.05
FEV_1/FVC	-0.13	>0.05	0.16	>0.05	-0.05	>0.05	-0.16	>0.05
BEF	0.04	>0.05	-0.13	>0.05	0.24	>0.05	0.56	<0.05
PEF	0.35	>0.05	-0.16	>0.05	-0.01	>0.05	0.10	>0.05