RESULTS

Table (1): Incidence of respiratory troubles.

It was found that in cases the incidence of respiratory troubles was 65.8 % while in control group the incidence of respiratory troubles was 35 %, and this difference between cases and control was statistically significant ($P < 0.05$).

Table (2): Classification of respiratory tract troubles.

It was found that the incidence of upper respiratory tract troubles in cases was 49.8 % and in control was 30 %.

Incidence of lower respiratory tract troubles in cases was 8.8 % and in control was 4 %. It was also found that incidence of wheezing chest in cases was 7.2 % while in control was 1 %.

The difference between cases and control was significant statistically ($P < 0.05$).

Table (I)

Incidence of respiratory troubles

	Cases		Control	
	Number	%	Number	%
+ve	329	65.8	35	35
-ve	171	34.2	65	60
Total	500	100	100	100

X^2 test = $P < 0.05$ = Significant

Table (2)

Classification of respiratory tract troubles

Respiratory tract troubles	Cases (500)				Control (100)			
	+ve		-ve		+ve		-ve	
	No	% to total case	No	%	No	% to total cont.	No	%
Upper resp. infection	249	49.8	--	--	30	30	--	--
Lower resp. infection	44	8.8	--	--	4	4	--	--
Wheezing chest	36	7.2	--	--	1	1	--	--
Total	329	65.8	171	--	35	35	--	--

P test = $P < 0.05$ = Significant

Upper respiratory tract troubles including (nasal discharge, pharyngitis, otitis media, maternal reports of cold, sore threat) lower respiratory trawt troubles including (bronchitis, bronchiolitis, pneumonia, maternal reports of wheezy chest (Fergusson et al; 1980). according pedreira (1985) laryngitis & tracheitis belong to lower respiratory tract troubles.

Table (3): Incidence of respiratory troubles in relation to level of housing.

It was found that in cases the incidence of respiratory troubles in standard housing was 7.8 % and in control in standard housing was 2 %.

Incidence of respiratory troubles in substandard housing in cases was 58 % and in substandard housing in control was 33 %.

It was found difference between cases and control which is significant statistically ($P < 0.05$).

Table (4): Type of respiratory troubles in relation to condition of housing.

It was found that in standard housing: incidence of upper respiratory troubles in cases was 8.51 % and in control was 2.86 %. Incidence of lower respiratory trobles in cases was 1.82 % and in control was 2.86 %, wheezing chest in cases was

Table (3)

Incidence of respiratory troubles in relation to level of housing

Housing	Cases				Total	Control				Total
	+ve		-ve			+ve		-ve		
	No.	% @	No.	% ✱		No.	% $	No.	% £	
Standard	39	7.8	20	4.0	59	2	2.0	11	11.0	13
Substand-ard	290	58.0	151	30.2	441	33	33.0	54	54.0	87
Total	329	65.8	171	34.2	500	35	35	65	65.0	100

P test $P < 0.05$ = Significant

@ = +ve / T. Cases

✱ = -ve / T. Cases

$ = +ve / T. Cont.

£ = -ve / T. Cont.

Table (4)

Type of respiratory troubles in relation to condition of housing

Respiratory Troubles / Housing	+ve Cases						Total	+ve Control						Total
	upper resp		lower resp		wheezing			upper resp		lower resp		wheezing		
	No	% upper +veC	No	% lower +veC	No	% wheez +ve C		No	% upper +veT	No	% lower +ve T	No	% wheez +ve T	
Standard	28	8.51	6	1.82	5	1.52	39	1	2.86	1	2.86	0	0	2
Substandard	221	67.17	38	11.55	31	9.43	290	29	82.86	3	8.56	1	2.56	33
Total	249	75.68	44	13.37	36	10.95	329	30	85.72	4	11.42	1	2.86	35

In wheezy chest in both standard and substandard housing P test = $P < 0.05$ = significant.

In upper and lower respiratory troubles in both standard and substandard housing P test = $P > 0.05$ = not significant

1.52 % and in control was 0 %.

In substandard housing, the incidence of upper respiratory troubles in cases was 67.17 % and in control was 82.86 %.

Incidence of lower respiratory trobles in cases was 11.55 % and in control was 8.56 %. Also, it was found that the incidence of wheezing chest in cases was 9.43 % and in control was 2.86 %.

Statistically, there is a significant difference between case and control in wheezing chest ($P < 0.05$) in standard and substandard housing.

There is no statistically significant association between cases and control in the upper and lower respiratory tract troubles in both standard and substandard housing.

Table (5): Respiratory troubles in relation to type of smoking.

It was found that upper respiratory tract troubles with cigarette smoking exposure was 47.11 %, Goza smoking exposure was 14.59 % and with mixed type exposure was 13.98 %.

It was also found that lower respiratory tract troubles with cigarette smoking exposure was 8.82 %, Goza smoking exposure was 2.74 % and with mixed type was 1.82 %. Also, wheezing chest was found with cigarette smoking exposure was 6.38 %, with Goza exposure was 3.04 % and with mixed type exposure was 1.52 %.

Statistically, there was no significant difference between the effect of the 3 types on upper, lower respiratory tract and wheezing chest.

Table(5)

Respiratory troubles in relation to type of smoking

Respiratory Troubles / Type of Smoking	Upper resp.tract		Lower resp.tract		wheezy chest		Total
	Number	% Upper Total	Number	% Lower Total	Number	% Wheeze Total	
Cigarette	155	47.11	29	8.82	21	6.38	205
Goza	48	14.59	9	2.74	10	3.04	67
Mixed	46	13.98	6	1.82	5	1.52	57
Total	249	75.68	44	13.38	36	10.94	329

X^2 = P > 0.05 = not significant

Table (6): Growth percentil in relation to passive smoking.

A. Weight percentil < 25 its incidence was 45.2 % in cases and 41 % in control, 25 - 95 percentil weight was 52.2 % in cases and 54 % in control, > 95 its incidence was 2.6 % in cases and 5 % in control. Statistically not significant $X^2 = P > 0.05$

B. Height percentil < 25 its incidence was 71.4 % in cases and 56 % in control, percentil 25 - 95 its incidence was 28 % in cases and 43 % in control, > 95 height percentil, its incidence was 0.6% in cases and 1 % in control. Statistically it is significant $X^2 = P < 0.05$

C. Head circumference percentil < 25, its incidence was 40 % in cases, 35 % in control, 25 - 95 percentil was 58.4 % in cases and 65 % in control, percentil > 95 , 1.6 % in cases and 0 % in control. Statistically it is not significant $X^2 = P > 0.05$

Table (6)

Growth Percentiles in relation to passive smoking

(A)

Weight

Percentils	Cases (500)		Control (100)	
	Number	No/Total cases %	Number	No /total cont. %
< 25	226	45.2	41	41.0
25 - 95	261	52.2	54	54.0
> 95	13	2.6	5	5.0
Total	5 00	100.0	100	100.0

X^2 = P > 0.05 = not significant

(B)

Table (6)

Height

Percentils	Cases (500)		Control (100)	
	Number	No./Total cases %	Number	No./Total cont. %
<25	357	71.4	56	56.0
25 - 95	140	28.0	43	43.0
>95	3	00.6	1	1.0
Total	500	100.0	100	100.0

X^2 = P < 0.05 = significant

(C)

Table(6)

Head Circumference

Percentils	Cases (500)		Control (100)	
	Number	No./Total cases %	Number	No./Total cont. %
<25	200	40.0	35	35.0
25 - 95	292	58.4	65	65.0
>95	8	1.6	00	00.0
Total	500	100.0	100	100.0

X^2 = P > 0.05 = not significant

Table (7): Developmental children in relation to passive smoking.

We classifying cases and control into subnormal, normal and abnormal percentils and we use P test where $P > 0.05$, so it is not significant statistically.

Table (8): Incidence of respiratory troubles in relation to age.

It was found that the incidence of respiratory troubles during first year was 50.45 %, during second year was 31.01 % and during third year it was 18.54 %.

Using simple regression test & (t) test

where $y = a \pm bx$

$= 214.7 - 52.5\ x$

(7.89)

where calculated (t) is higher than tabled (t) at confidence of 95,99 %. So, it is highly significant where $P < 0.05$ also $P < 0.01$

Table (7)

Developmental children in relation to passive smoking,

Classification		Cases (500)						Control (100)					
		Subnormal		Normal		Abnormal		Subnormal		Normal		Abnormal	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Communicative development	Hearing	3	0.6	497	99.4	0	0	1	1.0	99	99.0	0	0
	Vision	0	0.0	500	100.0	0	0	1	1.0	99	99.0	0	0
	Talking	41	8.2	455	91.0	4	0.8	8	8.0	92	92.0	0	0
Personal Social development	Smiling	2	0.4	498	99.6	0	0.0	1	1.0	98	98.0	0	0
	Recognition of mother	9	1.8	491	9.8	0	0.0	2	2.0	98	98.0	0	0
	Sphinctric control	11	2.2	487	97.4	2	0.4	1	1.0	99	99.0	0	0
Gross Motor development	Sitting	35	7.0	459	91.8	6	1.2	5	5.0	94	94.0	1	1.0
	Crawling	48	9.6	439	8.78	13	2.6	6	6.0	92	92.0	2	2.0
	Standing	56	11.2	435	87.0	9	1.8	5	5.0	92	92.0	3	3.0
	Walking	60	12.0	433	86.6	7	1.4	7	7.0	93	93.0	0	0.0

P > 0.05 Statistically non significant

Table (8)

Incidence of respiratory troubles in relation to age

Age	Respiratory Troubles	
	Number	%
1 day-1 year	166	50.45
1 year-2 year	102	31.01
2 year-3 year	61	18.54
Total	329	100.00

t test P $= < 0.05, 0.01$ = significant statistically

RESULTS OF URINE ANALYSIS

Values of pH of 14 urine samples ranged between (5 - 6.5), the other 6 samples had their pH in the alkaline range between(7 - 7.8).

Results from thin layer chromatographic analysis revealed the presence of nicotine in 12 samples and presence of cotinine (alongside with nicotine) in 4 samples.

The concentration of nicotine in 8 samples (with acidic pH) ranged from 145-155 ug % with an average of 150$\pm$ 2.2 ug %.

While the concentration of nicotine in other 4 samples (with alkaline pH) ranged from 40-45 ug % with an average of 45$\pm$1.5 ug % of nicotine.

Discussion

DISCUSSION

The result of this work revealed that the incidence of respiratory tract infection is increased in children exposed to passive smoking from the smokers parent than in children of non smokers parent (in this work it was found that only father who smokes). This incidence reach 65.8 % in passively smoking groups and 35 % in children of non-smokers fathers.

There is significant association between passive smoking and respiratory tract troubles.

Pedreira et al., (1985) found that tracheitis was 89 % more frequent among infants exposed to household smokers, bronchitis occured 44 % more frequently in households in which the mother smoked than in households in which the mother did not, but occured only 10 % more frequently in households in which the father was the smoker, tracheitis occured 92 % more frequently in household in which the mother smoked as opposed to a 7 % increase in households in which the father smoked,

also Pedreira et al., (1985) found that illness other than tracheitis and bronchitis either were rare (laryngitis and pneumonia) or were not affected by the presence of a smoker (bronchiolitis).

In our work the mother did not smoke and so we can not make this comparison between the mother and the father smoking, but as a whole the incidence of respiratory infections especially lower respiratory tract infections is higher in children of smokers parents than in children of non-smokers parents.

Several studies have documented a relationship between parental smoking and respiratory tract illness in infants (Fergusson et al., 1980; Dutau and Corberand et al., 1979 and Colley, 1974).

But Fergusson et al., (1980) found that the risk of respiratory illness was similar for children of smokers and non-smokers parents.

As regards (Table 2) we found that there is significant difference between children of smokers parents with upper respiratory tract infections (49.8 %) and children of non-smokers parents with upper respiratory tract infections (30 %).

Fergusson et al., (1980) found that there is significant association between passive smoking of the mother and upper respiratory tract troubles.

Harlap and Davies (1974) found that infants with upper respiratory tract infection in smokers mothers (5.3 %) and (4.8 %) in infants with upper respiratory tract infection of non smokers mother, but it was not significant association between upper respiratory tract infections of those infants and smokers mothers.

The previous results of Harlap and Davies (1974) was not significant and was low compared with our

results as work of Harlap and Davies (1974) occured on infants admitted to hospital for respiratory tract troubles and other diseases, and so hospital inpatient morbidity, however, is a poor indicator of the incidence of upper respiratory tract illness since most infants with colds, influenza, pharyngitis, and otitis media would not be admitted.

We found that there is significant difference between children of lower respiratory infection exposed to passive smoking from the fathers (8.8 %) and between children with lower respiratory infection not exposed to passive smoking (4 %), while Harlap and Davies (1974) found that the incidence of lower respiratory tract infections in infants of smokers mothers (13.1 %) where they were admitted to hospital for pneumonia and bronchitis, incidence of lower respiratory infection in infants of non-smokers mothers (9.5 %) where they were also admitted to hospital for pneumonia and bronchitis, these incidences of

Harlap and Davies (1974) studies were significant and higher than our results as in studies of Harlap and Davies (1974) the smoking parents was mother where, the effect of maternal smoking is stricking and perhaps best explained by the fact that the mother, more often than the father, remained at home with the child (Pedreira et al., 1985). Alson incidences of Harlap and Davies (1974) were higher than our results as these incidences of infants in the first year of life only, where exposure to cigarette smoke in the first year of life doubled the risk of acquiring pneumonia or bronchitis (Colley et al., 1974).

But Fergusson et al., (1980) reported that there was no significant association between paternal smoking and lower respiratory illness.

Leeder et al., (1976) reported a significant increase in lower respiratory tract infections in infants exposed to cigarette smoke.

We found also that incidence of wheezy chest in children of smokers fathers (7.2 %) and in children of non-smokers fathers (1 %), Weiss et al., (1980) reported that wheezing chest in children of non-smokers parents (1.58 %) and with one parent smoker (6.85 %) and (11.8 %) of children from households with two parents smokers and reported also that a significant association between parental smoking and wheezing chest.

As regards (Table 3) we found that incidence of respiratory illness in standard housing (7.8 %) and in substandard housing (58 %) in children of smokers fathers, but incidence of respiratory troubles in children of non-smokers father in standard housing (2 %) and (33 %) in substandard housing, we found significant association between respiratory illness and level of housing in both standard and substandard housing.

The incidence of respiratory illness is increased in substandard housing than in standard housing as

overcrowding, bad ventilation, low socioeconomic standard level and bad hygenic habits in substandard housing.

Schenker et al., (1983) reported that incidence of chest illness in children before 2 years of age was (6.9 %), (8.4 %), (8.8 %) in high, medium and low socioeconomic status respectively. These incidences are lower than our results because there are other predisposing factors for our cases e.g. we classified the state of house into 2 levels while Schenker et al., (1983) classified state of home into 3 levels also low level of health in our study.

Schenker et al., (1983) found that there is a significant inverse trends with SES (socioeconomic status) were present for chronic cough and severe chest illness before 2 years of age. Several factors such as family size or crowding, not considered specifically in Schenker's (1983) study have been shown

to correlate with childhood illness rates and may partially explain the effect of SES (Glezen and Denny , 1973).

As regards (Table 4) it was found that no significant association between passive smoking and upper, lower respiratory tract illness in standard housing, but we found that there is significant association between passive smoking and wheezing chest in standard housing because we have not found children with wheezing chest among non-smokers parent where their incidence were (0) but incidence of children with wheezing chest of smokers parent were 1.52 %, so there is significant difference between two groups. We not found children with wheezing chest in non-smokers parent in standard housing due to good health habits, high level of health and good ventilation in standard housing.

The incidence of lower respiratory troubles in standard housing is slightly lower in children of smokers fathers (1.82 %) than in children of non-smokers

Fathers (2.86%),also in substandard housing we found that incidence of upper repiratory infection of children of smokers fathers (67.I7%)is lower than incidence of upper repiratory infection in children of nonsmokers fathers (82.86%),these revrse incidences as questionnaire made in winter where incidence of respiratory tract infection was high and acts as a factor in reversing these incidences .There was no significant association between passive smoking and upper respiratory troubles in substandard housing .

Also in substandard housing it was found that there is no significant association between passive smoking and lower respiratory tract illness , but we found significant associa - on between passive smoking and wheezing chest in substandard housing. from (table5) we found that cigarette smoking has more effect on the incidence of respiratory tract troubles of children of smokers fathers than the effect of Goza and the effect of mixed types,this because cigarettes especially Cleopatra "Super" cigarettes which is more common in Egypt contain (2mg nicotine /g cigarettes) which is higher than nicotine percentage in meassel used in Goza which is common used in Egypt where this percentages equal to (.I.38 mg /g tobacco) these percentages reported by Farag et al.,(I988)

Also the effect of Goza is less than the effect of cigarettes because the use of Goza in Egypt occured in

groups especially in substandard housing outside of houses in the atmosphere or in Coffees ,we noted also that the effect of two types together (mixed)type is less in its effect on the incidence of respiratory tract infection of chidren of smokers fathers, this is because that fathers who use mixed type usually use some of cigarettes and some of goza smoking,so result is less in effect, also using mixed type of smoking was by small number of cases ,also those fathers who used mixed type usually of workers group who spend most of their time outside houses in their work or in Coffees and so their smoking effect is low.

Significantly there is no differece between the effect of three types of smoking on respiratory tract troubles .

As regard (table6) showing relation of passive smoking and growth where we found there is no significant association between passive smoking and weight of children of smokers fathers ,but Butler et a al .,(I972)found that maternal smoking in pregnancy is associated with reduction in birth weight ,where our study was done on children up to 3years of age with smokers father,but Butler et al(I972) study was done on birth weight of infants where their mother were smoking during pregnancy

Also we found that there is no significant association between passive smoking and head circumference.

We found also that there is significant association between passive smoking and height of children (There is significant difference between height of children of smokers fathers and height of children of non-smokers fathers). Hardy and Mellits (1972) found very few significant differences in a number of body measurements up to the age of 7 years between children of smokers and children of non-smokers.

Butler and Goldstein (1973) reported that passive smoking at home, therefore seems to affect the growth of children. The maximum difference in mean height between groups was about 1 cm.

Also data from a study in Cleveland of 539 6- and 7 - years-old children suggested an association between short stature in the child and number of smokers in the home.

As regards (Table 7) where we found no significant association between passive smoking and chil-

dren development. But Hardy & Mellits (1972) found very few significant differences in a number of body measurements and intellectual functions, also Butler & Goldstein (1973) found impairment of both mental and physical growth. But these previous studies was doing on children of smokers mothers during pregnancy where our study were on children of smokers fathers.

(Table 8). show relation between respiratory tract troubles and the age of children in relation to passive smoking, where we found increase incidence of respiratory troubles in the first 2 years of life of children of smokers fathers, this respiratory troubles diminishes thereafter where it was more in the first year of life (50.45 %) then diminshes in the second year of life (31.01%) then become (18.54 %) in the third year of life. This increasing of respiratory tract troubles during first 2 years is due to strong contact relation between child and both

parents at home.

We found significant association between respiratory tract troubles and the age of children in relation to passive smoking.

Colley et al., (1974) found that exposure to cigarette smoke in the first year of life doubles the risk of acquiring pneumonia or bronchitis. Pedreira et al., (1985) reported that there is no relationship between exposure to cigarette smoke and age of disease onset.

Harlap & Davies (1974), Fergusson et al.,(1981) and Schenker et al., (1983) reported that there is association between parental smoking and childhood respiratory infection is most strongly evident during first 1 to 2 years of life and diminishes thereafter.

DISCUSSION OF URINE ANALYSIS

1. It is noted that the quantity of nicotine excreted in the urine of passive smokers varied with the pH of urine. It is much higher in acidic urine (about 3 folds) as in alkaline urine. This confirms the view that the difference is due to decreased reabsorption of nicotine from the urinary tract with increasing acidity (Haag and Larson, 1942).

2. An another factor contributed to the concentration of nicotine excretion in urine may be the type and the number of cigarettes smoked.

It is reported that Cleopatra "Super" cigarettes and meassel (used in Goza) contain high percentage of nicotine among other cigarettes commonly smoked in Egypt (Farrag et al., 1988).

Cleopatra "Super", Cleopatra Lux and Dunhil cigarettes contain 2, 1, 1 mg nicotine per gram cigarettes respectively. Other forms of tobacco e.g. Amphora and Meassel contain 2.84 and 1.38 mg per gram tobacco (Farrag et al., 1988).

3. Nicotine is reported to be absorbed strongly on glass and precautions concerning the ratio of solvent: aqueous phase have to be taken into consderation (Curry, 1976).