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Prevalence and Some associated Factors of Passive Smoking Among Iraqi (Adolescents and Children)

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Abstract

Background: Second-hand tobacco smoke is present in virtually all places where smoking takes place (at home, in the workplace, in bars, restaurants, public buildings, hospitals, public transport and educational institutions. *objectives:* To study the prevalence of second hand smoking among Iraqi adolescents ,to study some socio-demographic and epidemiological characteristics of affected population *Methodology:* A school-based analytical cross-sectional study conducted in primary, and secondary schools in, Baghdad/ Iraq. Age range (6-18) both genders, males and females, the adequate sample size selected was 1650; using Multistage stratified random sample technique, with proportional allocation according to the number of schools selected, number of classes as well as age and gender stratifications. *Results:* the prevalence of Passive smoking among child and adolescent groups enrolled in the study was 34.2% higher at younger age groups 17.2% among age (6-9) and 11.2% among (10-13) and 5.7% among(14-17), the difference was statistically significant P < 0.01. females are more exposed than male(18.7, 14.4) respectively and P <0.04, Indoor exposure showed significantly higher than outdoor (26.6, 9.4) respectively and P value < 0.002, passive smoking was more among those who exposed more than 3 days per week in comparison with less than 3 days P vale <0.03. poor knowledge on second hand smoking (19.5%) compare to those who have good knowledge (4.1%) p<0.003 same for believe (attitude) as it is more prevalent with those who do not believe in passive smoking hazards (24.9%), P,0.001. compare to 9.2% among believe in passive smoking, step was logistic regression analysis showed that the following factors are the main predictors for passive smoking impact, age (OR 2.08 95%CI 1.48-2.93, gender OR 1.8 95%CI 1.21-2.87, place of exposure 2.75 95%CI 1.62-4.68, knowledge OR 8.8 95% CI 4.65-14.39. *Conclusion:* Second hand smoking is highly prevalent among children and adolescents segments of Iraqi population, exposure to passive smoking strongly linked with age, gender, place of exposure, duration of exposure, knowledge and attitude factors.

Keywords

Second Hand Smoking, Adolescent, Iraq

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1. Introduction

Passive smoking is commonly understood as inhaling second hand smoke (SHS) from an active smoker. However, there is another type of passive smoking, through the environment, called environmental tobacco smoke (ETS)(1), Second-hand tobacco smoke comprises the smoke released from the burning tip of a cigarette (or other burned tobacco product) between puffs (called side stream smoke (SM)) and the smoke exhaled by the smoker (exhaled mainstream smoke (MS)). Small additional amounts are contributed from the tip of the cigarette and through the cigarette paper during a puff, and through the paper and from the mouth end of the cigarette between puffs (2). Second-hand tobacco smoke is

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also referred as 'environmental tobacco smoke', 'passive smoking' or 'involuntary smoking' (3). The terms 'passive smoking' or 'involuntary smoking' suggest that while involuntary or passive smoking is not acceptable, voluntary or active smoking is acceptable. In this document. Report on passive smoking (4). Stated that Second-hand tobacco smoke is present in virtually all places where smoking takes place (at home, in the workplace, in bars, restaurants, public buildings, hospitals, public transport and educational institutions. The setting that represents the most important source of exposure differs depending on the population (5) . For example in children, the home environment may constitute a significant source of exposure, while other sources that may contribute are schools and public transportation. Secondhand tobacco smoke contains a variable proportion of exhaled mainstream smoke ranging from 1 to 43% (Baker & Proctor, 1990)(6). Because of its rapid dilution and dispersion into the indoor environment, secondhand tobacco smoke acquires different physicochemical properties to those of mainstream smoke and side stream smoke and the concentrations of the individual constituents are decreased. Prevalence of passive smoking showed very high rate in some countries e.g. Lebanon 78.4% 2005 Jordan 53.6% 2009 ,Kuwait 49.8%, 2009 and Egypt 47.8% 2009 as well while other countries reported lower prevalence rate on national level like Bahrain 25.1% 2009, and Morocco 22.3% (3) . The aims of this study are, to study the prevalence of second hand (passive) smoking among Iraqi adolescents, to study some socio-demographic and epidemiological characteristics of affected population.

2. Methodology

A school-based analytical cross-sectional study conducted in both preparatory and secondary schools in, Baghdad/ Iraq. Age range (6-18) both genders, males and females, through the computer program EPI-INFO version _6.04'. ,using 3 % degree of precision, estimated prevalence of second hand tobacco use among adolescents from previous similar studies (2010),(30%), 1.5 design effect and 95% confidence interval, the adequate sample size selected was 1650, using Multistage stratified random sample technique, with proportional allocation according to the number of schools. Selected and number of classes as well as age and gender stratifications. Stratification mainly based upon the regions (Two river sides regions), sex (male, female), type of schools (governmental& private) ,age categories according to the grads .The list of schools was obtained from MOE(Ministry of education) Selection of the private). One class was selected randomly from each of the educational grade (primary schools (1-6) and secondary (7-12) within the selected schools and all the students in the selected classes were invited to participate in the survey. Confounders were identified and controlled. Strict inclusion exclusion criteria were applied and the exposure time, distance and dose were studied as well. The total sample subjected for analysis is 1650. Data was coded, entered and analyzed by using SPSS19.

3. Results

The study showed that the prevalence of second hand smoking among study population was 34.2% as shown in table, 17.2% were younger age group (6-9) years and female gender are more exposed than male (18.7%, 15.4%) respectively with statistically significant difference P<0.004, table (2) showed that indoor exposure to passive smoking was significantly higher than outdoor exposure (24.6,9.2%) respectively and P value was <0.003, Exposure to passive smoking all day per week showed the highest prevalence (18%) in comparison with one day per week (4.7%) p ,0.03. table (3) revealed that 17.3% are in continuous exposure to passive smoking for (6-8) years while (2.3%) exposed for almost 12 years P=0.05. it was papered in the study that (19.5%) of the exposed to passive smoking have poor knowledge about the second hand smoking while only (4.1%) showed good knowledge and P <0.003, as for believe(attitude) those who do not believe in passive smoking concept among the total exposed population in the study t were (24.9%) compare to those who believe in (9.2%) P=0.001. Table (5) showed the stepwise logistic regression analysis which revealed that the following factors are the main predictors for passive smoking impact, age (OR 2.08 95%CI 1.48-2.93, gender OR 1.8 95%CI 1.21-2.87, place of exposure 2.75 95%CI 1.62-4.68, knowledge OR 8.8 95% CI 4.65-14.39.

4. Discussions

The study showed that the total prevalence of passive smoking is 34.4% which higher than what has been reported in Bahrain and morocco 25.1% 2009, 22.3% respectively and lower than what has been reported in Lebanon 78.4% 2005 Jordan 53.6% 2009, Kuwait 49.8%, 2009 and Egypt 47.8% 2009 (3). The significant thing is that study results reflecting the prevalence among adolescent and children population, as a vulnerable group for tobacco induced diseases include: Cancer: General: overall increased risk, The risk in children increases significantly with higher amount of passive smoking(7). These risks have been a major motivation for smoke-free laws in workplaces and indoor public places, including restaurants, bars and night clubs, as well as some open public spaces (8, 9). Current study revealed that the younger age groups are more borne to passive smoking than

older age group, this result was in similar with other studies (10) and the reason behind this is simply children are always at home where the chance of exposure to indoor smoking specially (Parent smokers) are high . In terms of gender determinants, this study revealed more exposure to second hand smoker among females in comparison with males, this finding was in dis agreement with other study findings (11) which showed passive smoking is more among boys, this finding can be explained based on cultural context of the country where females always stick to stay at home while boys have more outdoor activities, being at home putting them at risk of more chances of exposure to indoor smoking . Indoor exposure to second hand smoking was significantly higher than outdoor exposure as reflected by the results of this study, a similar finding was concluded in other studies stated 20% of the children had at least one smoking parent; 7% had parents who smoked indoors and 13% parents who smoked only outdoors. Indoor smoking was most prevalent among single and blue-collar working parents (12). The study showed as well that younger age group are borne to more time of exposure, explanation behind is that this group are more close to their parents physically in comparison with older age group and they spent more time with their parents which put them at risk of exposure, the results has been agreed by other study done in UK (13). This study provides significant insight into prevalence of passive smoking among adolescents and children in Iraqi, an area relatively untouched to date. However there has been number of limitations inherent in any cross sectional school survey where data collection is limited to a single time point. Passive smoking was assessed by self-report and therefore, some students may have under reported their exposure, especially female students thus the estimated prevalence may be slightly lower than actual prevalence. Moreover, we did not assess other potential influential factors (14).

Table (1). Prevalence of exposure to passive smoking according to age and gender

Variable	No of exposed	Percentage out of total interviewed	Non Exposed	Percentage	P value
age					
6-9 years	284	17.2%	386	23.3%	P= 0.01
10-13	186	11.2%	294	17.8%	
14-17	95	5.7%	405	24.5%	
Total	565	34.2%	985	65.8%	
Gender					
male	255	15.45%	745	45.1%	
female	310	18.78%	340	20.7%	P=0.004
Total	565	34.2%	1085	65.8%	

Chi Square test P <0.05

Table (2). Source and Duration of exposure to passive smoking among Iraq adolescent population

variable	No of exposed Out of total interviewed	%	No non exposed	%	P value
Indoor exposure(family)	406	24.6%	394	23.87%	P= 0.002
Outdoor exposure	159	9.4%	691	41.87%	
Total	565	34%	1085	65.8%	
Duration of exposure					
4- 7 days per week	297	18%	404	24.4%	P=0.03
2-3 day per week	189	11.45%	311	18.8%	
Less than 1 day per week	79	4.7%	370	22.4%	
Total	565	34.2%	1085	65.8%	

Chi Square test P <0.05

Table (3). Frequency distribution of exposed to passive smoking by number of years of exposure

Variables	No of exposed out of total sample	%	P Value
Years of exposure			
6-8 Years	287	17.3%	P=0.05
9-10 Years	153	9.2%	
10-12 Years	87	5.2%	
More than 12 years	38	2.3%	
Total	565	34.2%	

Chi Square test P <0.05

5. Conclusion

Second hand smoking is highly prevalent among Iraqi children and adolescents segments of Iraqi population, exposure to passive smoking strongly linked with age, gender, place of exposure, duration of exposure, knowledge, attitude factors.

Table (4). Distribution of exposed by knowledge and attitude

variables	No	%	P value
Knowledge about passive smoking			
poor	322	19.5	P=0.003
fair	175	10.6	
good	68	4.1	
Total	565	34.2	
Attitude about passive smoking			
Do not believe in passive smoking	412	24.9%	P=0.001
Believe in passive smoking	153	9.2%	
Total	565		

Table (5). Step wise logistics regression of exposed according to significant predictors

Independent Variable	B	P	OR	95% CI of OR
Age	0.733	0.000	2.08	1.48-2.93
Gender	0.621	0.005	1.86	1.21-2.87
Knowledge	2.102	0.000	8.8	4.65-14.39
Place of exposure	1.013	0.000	2.75	1.62-4.68
Duration of exposure (days per week)	1.469	0.000	4.35	2.67-7.07
Length of exposure(years)	0.788	0.047	2.20	1.01-4.79

Reference group, OR = Odds Ratio, CI = Confidence Interval Model, p =0.000

Recommendation

National program on passive smoking including awareness, policies, intervention, education, legislations and advocacy is highly recommended to address this harm.

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