Study the relationship of smoking and health of the pregnant newborn baby

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Abstract

A survey aimed at identifying the effects of smoking , its disadvantages during pregnancy and its relationship to the health of the mother and her newborn baby. To achieve the goal of this research a sample consists of (71) smoking pregnant women was selected during attending their antenatal care visits to Al Elweyah maternity teaching hospital in Baghdad. Information's has been collected through the search form questionnaires developed for the purposes of the study, tables, frequency, Chi square and percentages has been used for the purpose of data analysis. The results of the study indicate the followings: -A relationship between the educational level of mothers and the number of cigarettes smoked was found. There is a link between smoking start-up period, the number of cigarettes smoked by pregnant women and newborn well being. There is a direct correlation between the number of cigarettes smoked by women during pregnancy and the occurrence of the maternal antenatal complications. There is a strong and direct correlation between the number of cigarettes smoked by pregnant women and its adverse effects on the fetus and the newborn baby. This study provided some recommendations to prevent the smoking habit and its take off or reduce at least during pregnancy to avoid the negative impacts arising of them.

Key words: smoking, pregnancy, newborn well being.

Introduction

The phenomenon of smoking is a dangerous phenomena that affect human health , and is the main cause for an illness and rapid death, where researchers have confirmed the increased risk of death among smokers in the early seventies they thought that smokers face a risk of death in 1: 4. Now, after providing additional information they believe that the danger has reached a rate of 1: 2 [1].

This phenomenon has spread in recent times among women in different age groups, where the increased proportion of smoker women in the East as it is in the West. Today 45% of smokers are women, as natural result of that, the proportion of pregnant women who smoke also are increasing steadily in our community [2].

The cumulative effect of smoking in the body grows day by day, the symptoms will not be seen directly, but will inevitably on continue smoking will be seen, the damage depends on the duration of smoking and the number of cigarettes consumed daily. The influence of smoking on women and men together, "but its impact upon women show early" since studies have shown that smoker women gets menopause earlier than the non-smokers.

Smoking has a negative impact on fertility, where the proportion of fertility is reduced to 50% as a result of the reduction process and the scarcity of eggs and ovulation caused by this toxic effect of nicotine found in cigarettes [3].

Smoking has clear implications on weakness of ovulation and therefore delay the occurrence of pregnancy, affects the menstrual cycle which would be shorter, as smoking causes a lack coherently on the uterus, which weakens the egg attachment to nesting areas.

The affects of smoking, including contents of toxic substances on the health of pregnant women and the health of the fetus, nicotine leads to the phenomenon of shrinking fitness of umbilical and cerebral arteries of the fetus. Article nickel, cadmium-causes direct effect on the heart muscle cells as well as the external surface of the mucous membranes, and the article Abannossianid is accused in several complications for the mother and newborn baby.

It also contributes toxic materials caused by smoking like nicotine, cyanide and carbon

monoxide in the high incidence of respiratory diseases, cancer, tumors, heart disease and cardiovascular accident.

The fetus is affected directly by smoking, because many of the toxic substances smoke is contained pass through the placenta into the fetus, causing a number of negative impacts such as congenital malformations among children born, low birth weight of a child born in addition to what is called the sudden death of the child after birth.

From the foregoing problems we can notice that is not easy and simple one, which called on us to give the importance to study and investigate it. Smoking is the of tobacco burned and the introduction of harm to the human body and they threw in every single inhalation of cigarette and for a period of two seconds only lead to inhalation of smoke 10_100 ml of this quantity, and contain 400 different poisons, which proved toxic impact on a person smoked (4). Abortion is defined as the termination of pregnancy after the eighth week prior to the end of 22 week of pregnancy or before the fetus weighed 500 grams (2).

While, low birth weight is that the weight of newborn is less than 2500 grams (2). However, the still birth is the mortality of the fetus after completing a 22 week of the pregnancy, or it is the mortality the fetus when with distance between the head and the soles of the feet is 25 cm or more (the crown-rum length)(2).

The death of an infant borne alive and died in the period which begins at birth and ends after 28 completed days. And it has been divided into early neonatal deaths which occur in the first week of life. and the late neonatal death that compliment after the seventh day and before the end of 28 days after birth (2).

The aim is to identify the effects of smoking during pregnancy and its relationship to the health of the mother and her newborn baby.

Patients & Methods

A 71 smoking pregnant woman has been selected for the purpose of identifying the effects of smoking and its relationship to health status, they has been selected in intentional manner during their attendance to maternal and child health center in Al Elweyah Maternity Hospital in Baghdad.

After reviewing the previous literature previous a questionnaires prepared for this purpose, and a preliminary study to determine the validity of the questionnaire has been made some adjustments to the wording of some of them. Statistical procedures included in the analysis of research data extraction and its distribution by using Chi square and percentages.

Results and Discussion

Table (1), show the highest rate (50.7%) of the total sample were employers , either on their educational level it seems that the highest proportion (35.2%) of the sample was secondary school graduates because of their non-recognition of the disadvantages of smoking ...Studies show that the practicing smoking habit rate is increasing among medium educational levels [5].

As research has shown that (38%) of pregnant women smokers were confined within the age group between 30 to 34 years, followed by percentage (19.7%) of the age group between confined (35- 39) years and then confined between the age group (25 -29) year terms reached rate (15.5%), due to the fact that girls at this age go out to public life and growing phenomenon of smoking age girls progress towards thirties is the age at which you are riding About her marriage or work and rely on themselves [6].

Table 1 also, shows that the highest rate (63.4%) of the number of pregnancies is (1-2) and lowest rate (36.6%) of the number of pregnancies is (3 & more) and this was confirmed by the report of the British Medical Association, smoker women suffer from the problems of pregnancy more than others , decreased chances of pregnancy with a rate of 10-40% in each menstrual cycle, and the more the t smoking the more the time needed to get pregnant [7].

Table (2) show that the value of the calculated qui squire confirms that when compared to listed value and at the level of significance 5% that there is a link between the level of education for pregnant mothers and the number of cigarettes smoked, since studies confirmed that smoking is more

common among less educated [1] . The educational level of the mother increases the awareness of the harm caused by smoking which leads to reduce the number of cigarettes smoked by.

Table (3), also show that there are very strong relationship between the start of smoking & newborn child wellbeing, this was confirmed by the calculated value of the qui square. As Table (4) and through the calculated value of qui square also, at the level of significance 5% a relationship between the number of cigarettes that pregnant women smoked / day & newborn child wellbeing was found. These results are logical and correct where more prematurity by 10 - 15% occurs due to smoking, as low birth weight increases in proportion to the number of cigarettes smoked per day, in the United States of America, we find that 11.9% of low birth weight born by smoker mothers compared to 2.7% of the of non-smokers [8].

The studies have shown that children of smoking mothers during pregnancy are born prematurely and weighed less than 2.5kg [9] or weighing less than the normal by 300 grams or more depends on the number of cigarettes smoked by pregnant women during pregnancy [10]. This amount is significant especially if the child is born prematurely.

The reason for the low birth weight is due to the presence of some toxic substances nicotine, carbon monoxide and aromatic materials pass the placenta to reach the fetal blood. Researches also confirmed the existence of these substances in the fetal blood of the smokers because carbon monoxide gas found in pregnant blood reaches to the fetus and prevent the arrival of oxygen to them [11].

It appears from the table (5) that there is a strong correlation between the number of cigarettes smoked by pregnant women and complications that occur during pregnancy, since the value of the calculated qui square is greater than the listed value at the level of significance 5% and the degree of freedom of 7.This result is logical and correct where statistics emphasized that the vulnerability of abortion doubly increased in smoking mothers, especially during the first months of pregnancy [12] and this is what has been proven in many medical research in America for example, the smoking leads to abortion in around 19000 to 140000 women annually.[4]

Nicotine in cigarettes is sucked by the blood of a pregnant mother from her lung to be distributed in all parts of her body including the uterus, placenta and affect the formation of the fetus and causes placental separation which is source of nutrition, and the inevitable result of this is abortion. The dangers of smoking during pregnancy are not only abortions, but goes beyond that to the problems of the maternal health by increasing the proportion of respiratory infections and urinary tract infection. As well as intrauterine deaths and the still births or deaths of embryos before birth [13].

Through the value of the qui square described in the table (6) inferred that there was very strong relationship between the number of cigarettes smoked by pregnant women and the negative effects on the fetus and newborn child. Where studies affirmed that smoking has negative impacts on child growth and that this negative impact increases by increasing the number of cigarettes smoked by pregnant mothers.[14]

Some research also indicated that the negative consequences of the phenomenon of smoking is to have children infected with some diseases that affect their respiratory systems where the greater the number of cigarettes smoked by the mother the increased the proportion of negative influences on the children or the newborn coughing , respiratory infections , asthma and bronchitis. As well as a high proportion of congenital malformations of the born children around 27% as a result of smoking, in addition to high rates of sudden infant death(sudden infant death syndrome) doubled due to the reason for this lack of response to neural centers at the time of Hypoxia, or oxygen deficiency due to the increased incidence of obstructive breathing shat down during the Sleep, Apnea. As studies have shown that approximately 400 children die during or immediately after birth due to an increase in cigarettes smoked by the pregnant women [15]

The studies also shows that the incidence of allergic skin infections are doubled among children born to smoker mothers, and that the increased mortality rate of children under one year are increased in direct proportion to the number of cigarettes smoked by pregnant mothers [14].

The present study recommended the followings:

1-The need to increase health awareness and detection of smoking mothers hazards through the antenatal clinics. Television programmers of mother and child care as well as through other media.
2- Increasing the interest in maternity care centers on the emphasis of giving birth to healthy children free of diseases through the awareness of the pregnant women to refrain from smoking during pregnancy, at least.
3-To provide assistance by the specialist doctor for pregnant women who attempt to stop smoking so as to prescript alternative treatments to nicotine such as (Niconitil) where supplying a small quantities of nicotine to the body without exposing her to dangerous effects caused by inhalation of tobacco smoke.
4-A wider study involving a larger number of universities graduates and comparing it to this study.

References:

1-World Health Organization Regional Office for the Eastern Mediterranean, Development into practice, Governments and the Economics of Tobacco Control, Alexandria, 2000.

2-Scientific evidence, safe motherhood, mother and child legs achieving safe motherhood in all countries, the maternal health and safe motherhood, family health department, 1999.

3-Mustafa Abdel Rahman. Smoking mother and adverse effects on the fetus and newborn. Your magazine. 2005: No. 114.

4-Jamal Abd Allah Bazi. The impact of smoking on pregnant women and foetus. J. of Medical Science, University of Hadramout. 2003: 3.

5-Klein men, J., Smoking during pregnancy 1967 – 80. AJPH. 1987; 77 (7).

6-Adli B. Tawfiq. dismantled, smoking (field research). Dar Al-Qadissiya for printing, Baghdad, 1974.

7-Radwan Al-Ghazal. Serious effects of smoking on pregnant women and sex hormones, time Searanih Magazine, No. 711, 2006.

8-Martin, J. A., et al. Births: Final data for 2004, National Vital statistics reports, volume 55, number 1 September 29, 2006.

9-Walsh RD. E effects of maternal smoking on adverse pregnancy outcomes : Examination of the criteria of causation , Hum Boil, 1994.

10-Lico, Windsor RA , Perkins L., et al. The impact on infants' birth weight and gestational age of cot nine – validated smoking reduction during pregnancy. JAMA, 1993.

11-Krisa Van, Meurs. Cigarette smoking in pregnancy and the developing fetus , September , 1999 .

12-Smoking during pregnancy, washing state department of health, January, 2006.

13-Department of human services, public health branch public health research project funding round 2007 -2008, smoking in pregnant aboriginal women, 2008.

14-Mac Dorman, MF., Cnattingius, S., Hoffman, HJ., Kramer, MS. Sudden infant death syndrome and smoking in the united states and Sweden. American Journal of Epidemiology. 1997.

15-U.S. Department of Health and Human Services, the health consequences of smoking: A report of the surgeon general, 2004, centers for disease control and prevention, office on smoking and health, Atlanta Georgia, May, 2004.

Table (1): Sample Recipes

Variables	Frequency	Percentage
1- pregnant woman occupation		
employer	*36*	*%50.7*
Housewife	*31*	*%43.7*
Student	*4*	*%5.6*
	71	*%100*
2-Educational level		
Read and write	*18*	*%25.4*
Primary	*15*	*%21.1*
Secondary	*25*	*%35.2*
College and over	*13*	*%18.3*
	71	*%100*
3- Age groups		
15- 19	*2*	*%2.8*
20- 24	*8*	*%11.3*
25- 29	*11*	*%15.5*
30- 34	*27*	*%38*
35- 39	*14*	*%19.7*
40- And more	*9*	*%12.7*
	71	*%100*
4- Number of pregnancy		
1 -2	*45*	*%63.4*
3 – and more	*26*	*%36.6*
	71	*%100*

Table (2): The relationship between women's educational level and number of cigarettes smoked by

Educational level / Number Cigarettes	Read and write	Primary	Secondary	College and over	Total
Less than 0.5 Packett	9	5	21	12	47
0.5 - 1 Packett	9	10	4	1	24
Total	18	15	25	13	71

df =3 / X^2 = 16.75

Table (3): The relationship between smoking and a newborn child

The smoking / Recipe A newborn child	Less than 2 years	2 -5	6 -9	10 - 13	14 and over	Total
Health child	15	20	9	2	—	46
Preterm	—	1	4	10	2	17
Children small for date	—	2	3	3	—	8
Total	15	23	16	15	2	71

df =8 / X^2 =32.84

Table (4): The relationship between the number of cigarettes smoked by pregnant women day recipe newborn child

The number of cigarettes / Recipe A newborn child	Less than 0.5 Pickett	0.5 -1 Pickett	Total
Health child	40	6	46
mature Child	6	11	17
Children small for date	1	7	8
Total	47	24	71

df = 3 / X^2 =24.57

Table (5): The relationship between the numbers of cigarettes smoked by pregnant women and the occurrence of complications during pregnancy current

The number of cigarettes / Occurrence of complications	Less than 0.5 Pickett	0.5 -1 Pickett	*Total*
An abortion	*9*	—	*9*
Inflammation of respiratory tract	*13*	*1*	14
UTI Urinary tract infection	*8*	*11*	*19*
Intrauterine death	—	*3*	*3*
Anemia	—	*7*	*7*
Premature labour	*2*	*2*	*4*
Ante partum hemorrhage	*4*	*7*	*11*
Hypertension	—	*4*	*4*
Total	*47*	*24*	*71*

X2 = 33.4 / df=7

Table (6): The relationship between cigarettes smoked by pregnant women and the negative effects on the fetus and newborn child

The number of cigarettes / Negative Impacts	Less than 0.5 Pickett	0.5 -1 Pickett	Total
Impacts on the of growth child	4	14	18
Congenital malformations of the newborn	—	8	8
Allergic skin diseases of the newborn	5	10	15
Sudden new natal death	2	7	9
Respiratory tract infection	5	16	21
Total	47	24	71

df = 4 / X^2 = 57.85