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Prevalence of smoking and its complications among Iraqi people

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Abstract---Background: Smoking is a condition in which a material is burned and the resulting smoke inhaled in to be tasted and absorbed into the circulation. Smoking and its complications are prevalent throughout the world but are most common in the Asia continent. The greatest rise in prevalence is, however, happening in middle and low-income countries including in Africa and Asia. Objective: To assess the prevalence of smoking and its complication among people in Iraq. Materials and Methods This is a randomized prospective clinical study, carried out in Al-Hakeem Hospital, Al-Sadr Medical city, and the Emergency Department. This study started in January 2021 and lasts for 4 months, was approved by the medical ethical community at the University of Kufa. The data was collected from the patient based on specific questionnaires. A sample of 60 cases in Al-Najaf governorate was chosen randomly from varying places where interview according to specialize questionnaire that included: age, sex, cigarette smoking per day, duration of smoking, complications that occur due to smoking. Results The prevalence of smoking complications was within the range of that reported in Iraq. A significant difference was founded between some smoking complications. These were (chronic obstructive pulmonary diseases and heart disease), (lung cancer and hypertension), (side effect of smoking and high cholesterol), and (a complication of the rural/urban environment). Also, the authors reported a proportional relationship between a packet of smoking per day with the duration of smoking and smoking complications. Increased duration of smoking leads to an increase in consuming

cigarettes per day and a high incidence of complications in the human body because of an increased amount of inhaled toxins. Conclusion: The prevalence of smoking complications was within the range of that reported in Iraq. A Difference was founded between some smoking complications. Early treatment for smoking habits and educational health programs regarding lifestyle behavior was highly recommended.

Keywords---smoking, hypertension, lung cancer, cholesterol, heart disease.

Introduction

Smoking is a condition in which a material is burned and the resulting smoke inhaled in, to be tasted and absorbed into the circulation. In some countries, smoking is also considered as a part of different rituals, where individuals use it to induce trance-like conditions, as they believe smoking leads them to spiritual enlightenment (1). The smoker's image can vary considerably but is often linked, especially in the story, with aloofness and individuality (2).

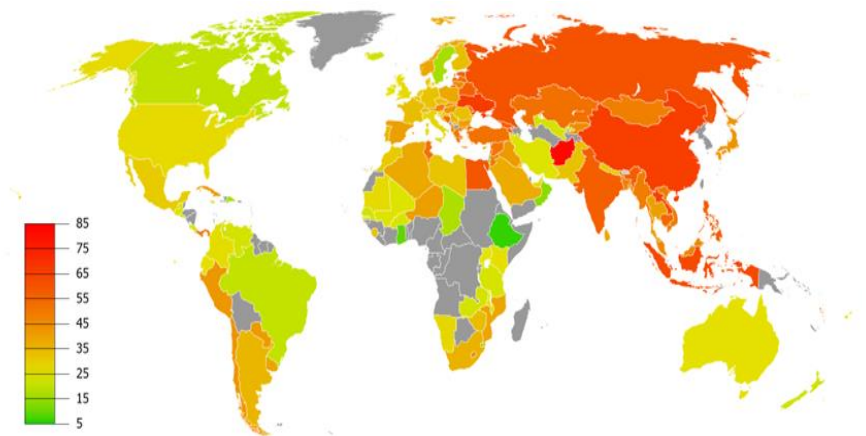


Figure (1): Percentage of males who smoke tobacco products by country at 12 February 2009 (3)

There is evidence stating that the most serious chemical in smoke is carbon monoxide and nicotine (4). It was confirmed that pulmonary lung function measures (FEV1 and FEV1/FVC) are reduced with an increasing number of packs/year [1]. Furthermore, smokers were liable to develop such diseases as coronary disease, systemic hypertension, and COPD [2-6]. The degree of dependence will assist the physician to obtain a good treatment plan for the smoker patient [7]. The smoker can be classified into two types the first is active smoking which includes: a state in which individual himself is smoking, lighting the tobacco product and inhaling the fumes, drawing them deep into one's lungs, in the process leaving deadly and toxic residues that will eventually directly cause health issues (7). The second is passive smoking which involves being exposed to the smoke created by others. Medical reports show that many thousands of

people who have never smoked in their lives have died or suffered from serious health consequences (8).

Management of smoking includes pharmacological and non-pharmacological ways. The non-pharmacological management comprises many ways including social support as part of treatment, securing social support outside the treatment, tactical advice, strategic, individual, group, or telephone counseling (9). While the pharmacological treatment includes: nicotine replacement therapy (NRT) available as lozenge, gum, patch, and inhaler. These ways aim to replace the nicotine obtained from cigarettes and decrease withdrawal symptoms when cease smoking. The use of NRT is advantageous to smoking because it does not contain non-nicotine toxic materials such as tar and carbon monoxide, which produce dramatic surges in the level of nicotine in the blood, causing strong dependence (10). Bupropion is a non-nicotine drug inhibitor of recaptured dopamine and an inhibitor of recaptured noradrenaline assists motivate patients to quit tobacco, decreases withdrawal symptoms, and is more effective than NRT on available studies. A combination of bupropion and NRT is more effective than each therapy alone but contraindicated if there is a history of convulsion (11).

Materials and Methods

Patients

This is a randomized prospective clinical study that was carried out in Al-Hakeem Hospital and Al-Sadr Medical City. This study started in January 2021 and lasts for 3 months, and was approved by the medical ethical community at the University of Kufa. The data was collected from the patient based on a specific questionnaire, after informed consent from each participant.

Materials

Estimate the number of cigarettes that patients smoke every day. First of all, it's very important to understand the objective of smoking cessation these days is simply to permit a normal life.

Methods

A sample of 60 cases in the Al-Najaf governorate was chosen randomly from varying places that were interviewed according to a preset questionnaire, which included; age, sex, number of cigarette smoking per day, duration of smoking, complications that occur due to smoking, and the residence.

Statistical analysis

Statistical analyses were performed using Statistical Package for the Social Sciences (SPSS-16.0) and the collected data were summarized and the results were calculated by Microsoft excel.

Results

Table (1): Number of smokers according to their ages and residency

Age classes	Residency		No. of patients
	Urban	Rural	
18-35	19	5	24
36-45	12	3	15
46-55	8	2	10
56-65	5	1	6
>65	5	0	5
Total	49	11	60

Table-2: Number of smokers according to the duration of smoking

Year of smoking	No. of patient
Less 5 years	18
5-10 years	17
10-20 years	14
20-30 years	6
More than 30 years	5
Total	60

Table (3): Number of smokers according to the cigarette they smoke per day

Cigarette Smoking per day	No. of patient
Less than 1 Packet	14
1-2 Packet	17
2-4 Packet	19
More than 4 Packet	10
Total	60

Table-4: Complication of smoking and their percent among smokers

Complications	No. of Patients (N-60)	Percent of occurrence of complications
Lung cancer	2	3.2%
COPD	28	45.9%
Heart Disease	14	22.9%
Hypertension	22	36%
High Cholesterol	22	36%
DM type 2	16	26.2%
S.E (Headache, insomnia, anxiety, nausea, vomiting)	25	40.9%

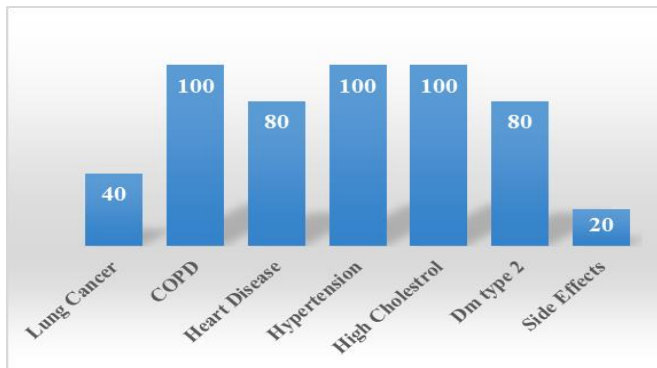


Figure-2: Comparison between percent of complications among patients with duration of smoking more than 30 years (N-5)

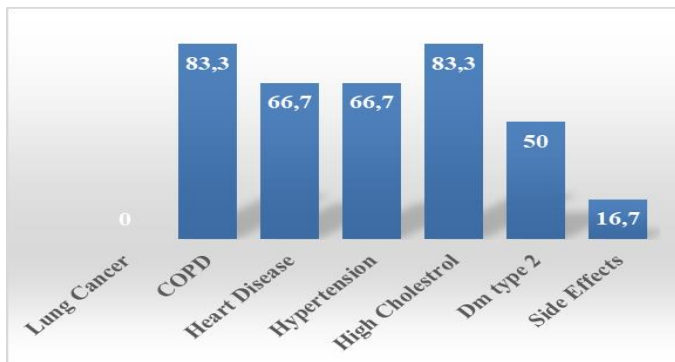


Figure-3: Comparison between percent of complications among patients with duration of smoking range from 20- 30 years (N-6)

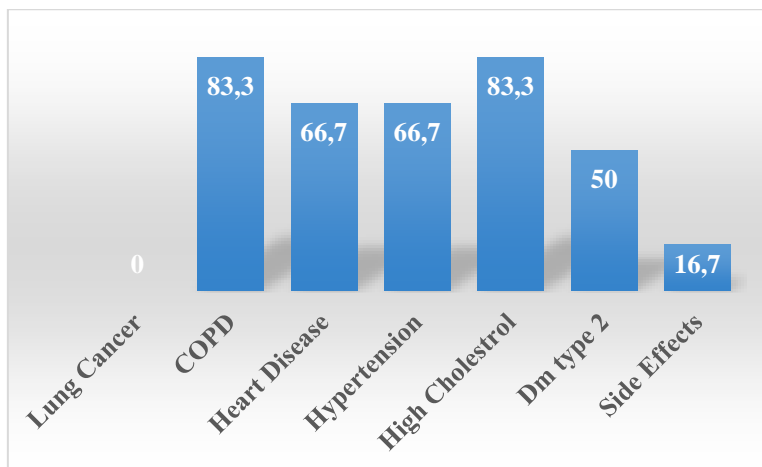


Figure-4: Comparison between percent of complications among patients with duration of smoking range from 10- 20 years (N-14)

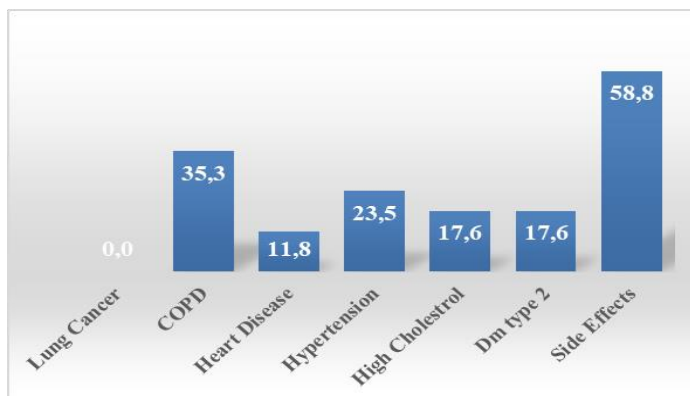


Figure-5: Comparison between percent of complications among patients with duration of smoking range from 5- 10 years (N-17)

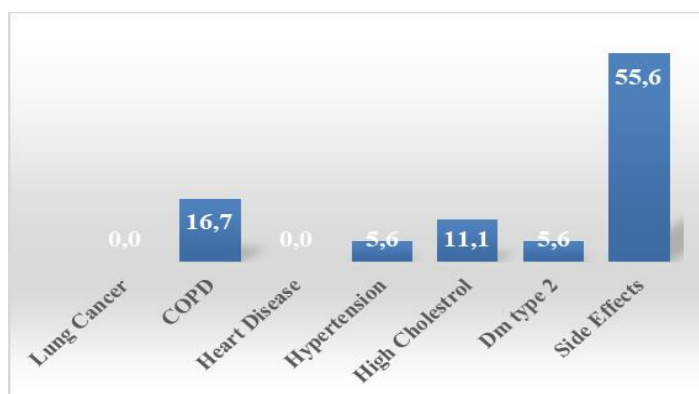


Figure-6: Comparison between percent of complications among patients with duration of smoking less than 5 years (N-18)

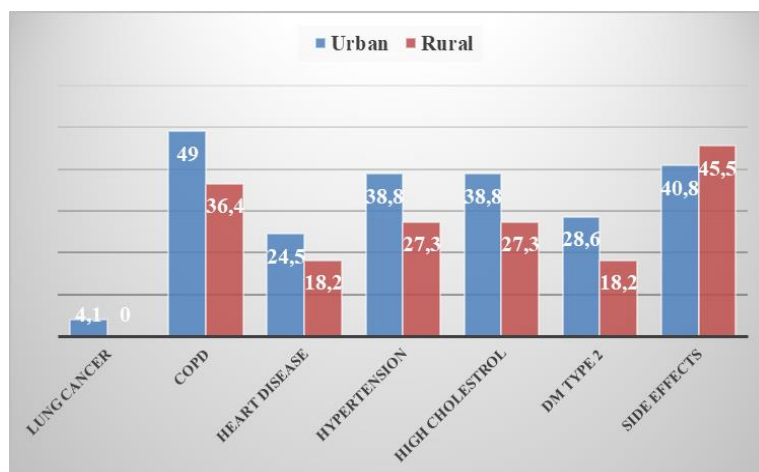


Figure-7: Comparison between percent of complications according to the residency of all smokers (N-60)

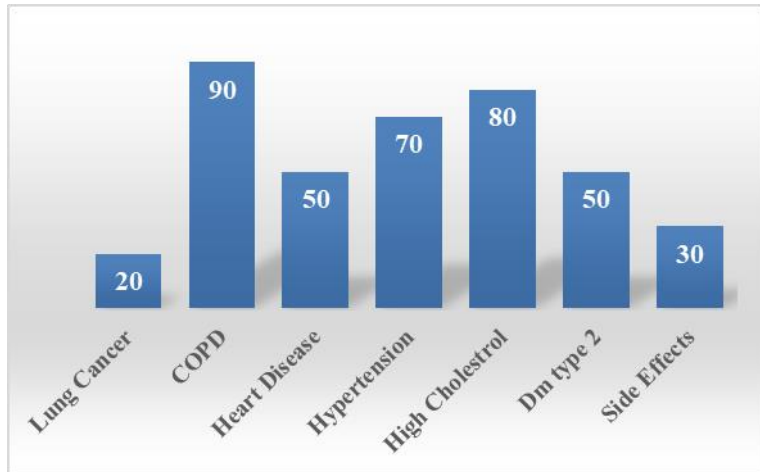


Figure-8: Comparison between percent of complications among patients smoking more than 4 packets per day (N-10)

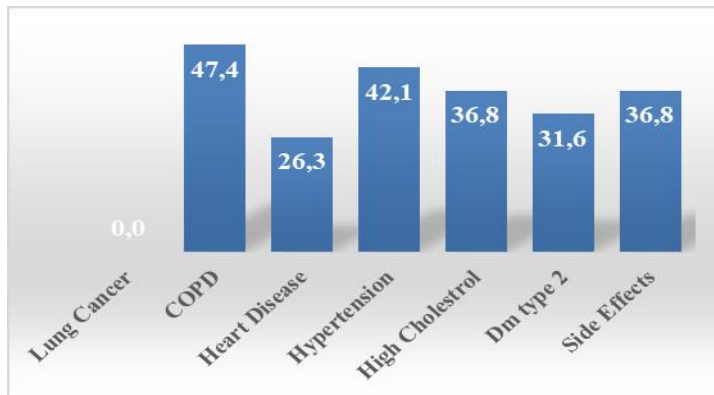


Figure-9: Comparison between percent of complications among patients smoking 2-4 packets per day (N-19)

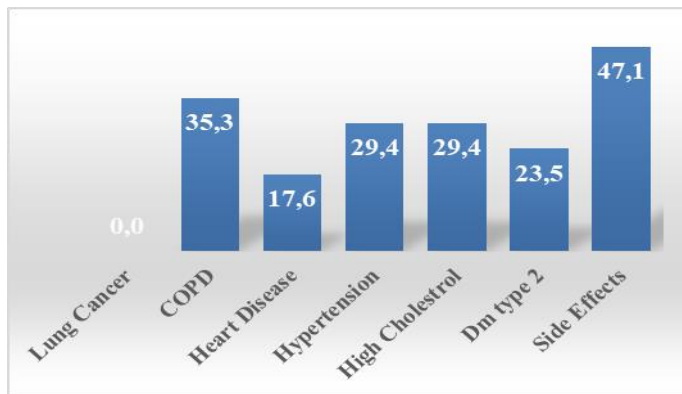


Figure-10: Comparison between percent of complications among those smoking 1-2 packets per day (N-17)

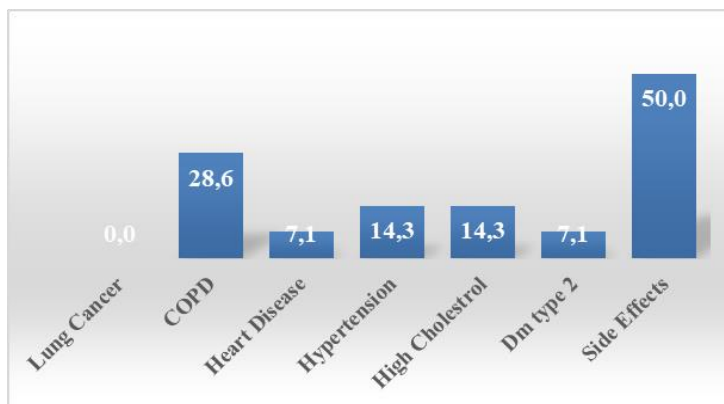


Figure-11: Comparison between percent of complications among those smoking less than one packet per day (N-14)

Discussion

Comparison between the prevalence of lung cancer and chronic obstructive pulmonary disease

The results gained from the present study showed significant differences between lung cancer and COPD, this finding is in similarity with this clinical information [8] which state that lung cancer needs long duration of smoking more than 20 years because it's mutation develop slowly, while COPD developed with several years of smoking only. The pulmonary cancer is not virtually as common as COPD, and smoking increases the risk of COPD by more than 10 times. Once COPD progress, it continues permanently, thus it can be only treated, but not completely cured. Similar to the course of lung cancer, the cure rates are few nowadays. Greatest people who develop lung cancers die within five years after their initial identification. Unlike several other malignancies, the mortality rates of lung cancer have not improved from the time when the mortality rate of all malignancies was first reported by the NCI in 1976 [9].

Comparison of the prevalence of smoking between those with lung cancer and those with heart disease

The findings of the current study of all patients showed a significant difference between lung cancer and heart disease. Our findings are inconsistent with a state that the high risk for coronary heart diseases among cigarette smokers compared to non-smokers was roughly 3.5 folds (i.e., more deaths from coronary heart disease compared to the non-smokers) [5, 6, 10]. It is important to know that heart disease is more frequent than lung cancer, this represented a large and common cause of death for smokers more than lung cancer [11].

Comparison of the prevalence of smoking between those with chronic obstructive pulmonary disease and those with heart disease

The results of the present study of all patients showed a difference between COPD and heart disease. These results have some similarities with a clinical study that

reported that smoking increases the risk of coronary heart disease by about 2-4 times, COPD by 12-13 times once these diseases develop, they remain for life [12]. Coronary artery disease and COPD can be treated, but not cured [13]. The risk of both increases with the number of cigarettes smoked per day [5, 14, 15]. The rate of death from chronic lung disease (COPD) is increasing among both men and women. The interpretation is that this rise in incidence could be due to the changes in cigarettes over the years that encourage deeper inhalation, consequently delivering more toxins to the body. Using the same reasoning, they suggest that deeper inhalation than in the past may be causing the greater incidence of peripheral lung cancers and COPD [13, 16-18].

Comparison of the prevalence of complications according to the residence (rural and urban)

The results of the present study showed a significant difference in the incidence of complications of smoking between rural and urban. These findings are in agreement with a survey that reported a metropolitan is a risky environment due to it is air pollution much higher than rural [19]. This can be due to the urban environment has increased in (number of cars, industrial factories). As well urban environment considers dangerous due to the modernized lifestyle of people like fast-food restaurants, which is very widespread and may lead to increased obesity and higher incidence of disease [20, 21]. All these risk factors lead to an increased incidence of smoking complications in an urban environment corresponding to our outcomes. Preceding studies also support these findings complication of urban much more than rural environment [22].

Comparison of prevalence of smoking side effects (nausea, vomiting, insomnia headache, and anxiety) between smokers according to the duration of smoking (>30 and < 5 years)

The findings of the current study showed a significant difference between the prevalence of side effects among smokers. These findings are in correspondence with the pharmacodynamics study that revealed that people with a duration of more than 30 years of smoking get adapted to the side effect of smoking due to the receptor of nicotine in their body getting desensitized and dysregulation that lead to decrease the side effect of smoking [23]. Likewise, there was a psychological adaption to the side effect and patients get used to it, thus far, not more consider a problem and do not interrupt their life activity as they get used to it. Instead, people with a duration of fewer than 5 years of smoking consider this side effect is a problem to them, and it interrupts their life activity because this group of patients got less damage to the receptor of nicotine due to smoking and they have more receptor in their body [24].

Comparison of complications among those who smoke more than 4 packets and people less than 1 packet per day

A closer look at the findings of the existing study displayed a significant difference between the prevalence of complications between the smokers according to the number of cigarettes smoked per day. These findings are concord results published earlier, described that people smoke less than 1 packet per day inhaled

less toxic substance into their bloodstream per day [25]. This is why complication that occurred in this group is less than that occurred in other group and also the complication of smoking to occur need a long duration of smoking with a high number of cigarettes to consume per day. Other group people smoke more than 4 packets per day they inhaled more toxic substance into the body and more toxic substance get access into their bloodstream per day. This led this group to be affected by smoke more than other groups. Also, we should take into consideration the occurrence of smoke complications depending on several other factors including age, duration of smoke, and a packet of smoking [26].

Conclusions

The prevalence of smoking complications was parallel to the range of that described in Iraq. Significant differences were established between some smoking complications according to some study parameters like (COPD and heart disease), (lung cancer and hypertension), (smoking side effects of and high cholesterol), (complications in rural environments, and complications in the urban environment). A proportional relation was found between the duration of smoking, the number of packets/days with smoking complications. An increase in the duration of smoking leads to an increase in consumption of cigarettes per day and an increase in its complications in the body due to the increased amount of inhalation toxic. Long duration of smoking leads to dangerous complications. Early treatment for smoking and health education programs regarding lifestyle behavior is highly recommended.

Author Contributions

The first author responsible for writing original draft preparation, methodology, investigation, resources and supervision. The second author responsible for software, validation, formal analysis and data curation. The third author responsible for review and editing, project administration, visualization and funding acquisition. All authors have read and agreed to the published version of manuscript.

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