

Statistical Analysis on the Health and Economic Damage of Smoking on a Sample of Arab Countries

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Abstract:

Through the subject of the study represented in the health and economic harms of smoking for a sample of Arab countries, this topic was addressed from the theoretical and analytical sides, where the theoretical aspect was addressed to the most important theoretical elements of tobacco and smoking, in addition to focusing on the most important damages, as it was found that they are not limited to the health aspect only, but also include the economic and social aspect, and through the analytical study of the prevalence rates of smoking by sex in the world and in the Arab world, it was found that the male category has Prevalence rates greater than the female category due to many reasons, including the wide spread in some countries among young people, schoolchildren and adolescents, and in some countries due to the spread of unemployment, as for the development of this phenomenon, a positive indicator has been reached is the low prevalence rates in the world due to awareness in this field and health complications.

Keywords: smoking, tobacco, health, economic.

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1. Introduction:

Smoking is the scourge of the age and one of the causes of human destruction and destruction of his health, and it is a major cause of many serious diseases and health complications in the short or long term, the most prominent and most dangerous of which are cancers of all kinds, especially lung cancer, which is spread among smokers by a very large percentage, in addition to respiratory diseases, inflammatory diseases and heart disease, and the harms of smoking do not It is limited to the health aspect only, but also includes the economic and social aspect, as we find that many countries spend thousands of millions of their monetary currency on tobacco and its import costs, and in the same context spend millions in the

treatment of people with various diseases resulting from it, and on this basis the following problem emerges for us:

What are the most important health and economic harms of smoking in the world in general and the Arab world in particular?

Regarding the problem posed, the following sub-questions can be formulated:

- What is the concept of smoking?
- What do we mean by tobacco?
- What are the most important health and economic harms of smoking?

In order to address the problem posed and answer the previous sub-questions, the following hypotheses emerge:

- Smoking causes short- and long-term health complications
- The percentage of males is more than the percentage of females in the field of prevalence of smoking rates in the world and in the Arab world
- Due to health awareness and complications, the world in general and the Arab world in particular are witnessing a decrease in the prevalence of smoking rates for males and females.

In order to answer the problem posed in this research paper, we divided the study into the following axes:

First Theme: General Concepts about Tobacco and Smoking

Second Theme: Health and Economic Effects of Smoking

The third axis: an analytical study of smoking rates in the world in general and in the Arab world in particular.

2. The first axis: general concepts about tobacco and smoking:

Through this theme, we will address the definition of tobacco in general in addition to smoking, its types and the reasons for its use.

2-1- Definition of tobacco: It is one of the types of plants whose leaves are used in the manufacture of cigarettes, which originated from North and South America, as for the name of tobacco, it is taken from the word Tabago, which is the name of an island located in the Gulf of Mexico, as tobacco was found for the first time in it, and then transferred to various countries of the world, and tobacco is obtained from the plant (Nicotine Tobaccum), which is from the Solanaceae family, when Columbus discovered America In 1492 AD, it was found that the inhabitants of the island of Guachan (currently San Salvador) burn the tobacco plant and inhale its smoke eagerly, and some were chewing the leaves of these plants, and when some Spaniards returned to Spain in 1518 AD , they transferred these plants and their seeds to their country, and in Portugal the French ambassador "Jean Nikon" recognized him in 1560 AD When he returned to France, he planted this plant in the garden of his home, and gave it to Queen Catherine of France, and advised her to chew his leaves to prevent headaches and calm the nerves, and the active substance was called nicotine in relation to the ambassador of France, "Jean Nikon" and spread from France to all Europe, and it was used to treat some diseases where

it is soaked and taken orally, and at the beginning of the seventeenth century the pipe appeared for the first time in Europe, and in 1811 Napoleon founded a special department for tobacco inventory and trafficking. (Helmy Father Jacob, 2001)

2-2- Definition of smoking: It is the process in which a certain substance is burned, and tobacco is the most common and used substance, and after burning this substance, the smoker tastes its taste and inhales, and many resort to smoking as one of the practices that help them to entertain themselves, and the definition of smoker is not limited to the person who uses any type of smoking directly, but there is another person known as a passive smoker, as medical research and studies have confirmed that A person who smokes directly receives 15% of the toxic substances and the remaining 85% is breathed into the air, harming those around him, so many countries have resorted to criminalizing smoking in any of the public places, in order to keep the environment clean, and there are several types of smoking, the most important of which are:

- Cigarettes: Cigarette smoking is the most common type and has been closely linked to lung cancer and arterial and heart disease.
- Cigars: Although they are less prevalent and common, most research confirms a relationship between cigar smoking and tongue and lip cancers.
- Shisha: This type of smoking is widely spread in the Arab countries, especially Egypt and the Gulf, and recent studies have confirmed that smoking shisha is no less dangerous than smoking cigarettes, and it also causes the same diseases caused by cigarettes, but in addition to that shisha is a strong mediator that transmits bacterial infection between people.
- Pipe: It is the least common type of smoking, and causes cancer of the tongue and lips.

We also find one of the most important causes of smoking:

- Family problems: Parents' problems often victimize children.
- Unemployment: Most young people who complain of unemployment do not find an outlet to get away from their narrow surroundings crowded with problems and worries except by smoking.
- Motivating parents to their children: such as the father sending his son to buy him a pack of cigarettes and asking him to keep the remaining amount, this act is a reinforcing factor for the child without the feeling of the father.
- The absence of the role of the school family: We find the teacher who smokes in front of his students indifferent to the effects of this germ.
- Self-imitation: When a child sees the father smoking, the older brother or any of his relatives, he will also smoke.
- Accompany bad friends: The group of friends has a strong impact on the upbringing of the child and the companion, so parents should know their children's friends and teach children how to choose their friends carefully.
- Family neglect: It means that no part of the family monitors the child, and leaves him with all freedom without accompanying him during some periods of life, such as adolescence. (<https://www.mosoah.com>, 2021)

3. The second axis: the health and economic effects of smoking:

The effects of smoking are not limited to the health aspect only, but also include the economic and social aspect, as smoking imposes huge costs on smokers, employers and society in general, and on this basis the most important damages can be summarized in the following elements:

3-1- Health damage to smoking: The American Chemical Society published a study on smoking in which it stated that one cigarette causes damage within minutes to human DNA, and other researchers in the United States also mentioned that each cigarette includes hydrocarbons of different rings, which have a prominent role in the creation and development of cancer that affects the lungs, and statistics in this area touched that lung cancer leads to the death of approximately three thousand people per day in the world, and it was stated in The statement of the US National Cancer Foundation that the belief of some smokers that "light cigarettes" expose them to less health harm compared to smoking regular cigarettes, and this is wrong thinking as light cigarettes are not safer than regular cigarettes and smoking them does not reduce the health risks of smoking, moreover there is no safe cigarette, and the only way to reduce the risk of smoking to health is to completely stop smoking. Nu-Chu, lead researcher in the study and an expert at the U.S. National Cancer Foundation, said that there is no safe level of cigarettes, and quitting smoking benefits all smokers regardless of the number of cigarettes they smoke per day, and scientists have observed that people who had an average number of cigarettes smoked during the day less than one cigarette have a nine-fold higher risk of lung cancer, and those odds rise 12-fold in those who smoke between one cigarette and ten cigarettes in Today, that is, those who practice light smoking.

Smoking can also cause several health complications, for example:

- Negative impact on the fertility of the smoker.
- Heart disease and clogged arteries.
- Atherosclerosis and vascular disease.
- Negative impact on the smoker's immune system.
- Studies have shown that smoking during pregnancy increases the chances of stillbirth by 23% and increases the risk of having a baby with physical defects by 13%.

3-2- Economic damage to smoking: The World Health Organization estimated the economic damage of smoking at 500\$ billion per year, the world spends about 15 percent of the money on health care in the treatment of smoking residues, the economic damage to the world from smoking has become constantly increasing, as these funds spent in this area can be used in other ways in development processes and raising economic growth rates.

The economic harms of smoking can also be found on a personal level through the large financial expenses that smokers spend because of smoking, as they spend a large amount per month on cigarettes that may be enough to do anything useful and valuable, and smoking also pushes to increase medical costs due to the increase in the proportion of chronic and serious diseases compared to others. (Adam Smith, Nottingham, 2015)

3-3- Social Harms of Smoking: There are many damages and social problems caused by smoking, a family in which there is a smoker is a family exposed to many family and social problems, especially if this smoker is the father or the mother, in this case this smoker is a bad example for children, and also the house in which a smoker is located is characterized by the stress that this house witnesses as a result of the presence of the smoker in a nervous state, which sometimes pushes him to fabricate problems with both At home, in addition to the many fires that may occur due to lit cigarettes and may be the victim of a family member, smoking affects the original life between spouses and this is followed by many other social problems.

4. The third axis: an analytical study of smoking rates in the world in general and in the Arab world in particular:

In this analytical study, the statistics of 2018 and 2021 will be compared with the rates of smoking around the world in general, in addition to addressing the smoking rates in the Arab world for the year 2021 with an analysis of smoking rates on the basis of sex in the world in general and in a sample of Arab countries in particular:

4-1- Smoking all over the world: By addressing smoking rates in general for the year 2018, we find that the highest rates were in Southeast Asia and the Balkans in Europe, and we find that the countries of Western Europe and the Americas are characterized by low smoking rates, however, this is not always as we find that Chile has one of the highest smoking rates in the world among the top five countries that recorded the highest smoking rates in the world in 2018, and there are three Countries in the Pacific Islands, one in Southeast Asia, and one in South America, and we find in many countries of South and Southeast Asia, that the smoking rate is very high for men and low for women, in Indonesia, for example, the male smoking rate is 76.20%, and the female smoking rate is 3.60%. (<https://worldpopulationreview.com>)

The 10 countries with the highest smoking rates according to 2018 statistics can be summarized as follows:

Table N° (1): The Highest smoking rates according to 2018 statistics

Nauru	Kiribati	Tuvalu	Myanmar	Chile	Lebanon	Serbia	Bangladesh	Greece	Bulgaria
52.10%	52.00%	48.70%	45.50%	44.70%	42.60%	40.60%	39.10%	39.10%	38.90%

Source: Prepared by the researcher based on the data published on the site:

(<https://worldpopulationreview.com>, 2022)

As for the year 2021, we can find that the highest rates remained confined to Southeast Asia and the Balkans in Europe, where the countries with the highest rates of smoking can be summarized according to 2021 statistics according to the following table:

Table N° (2): The Highest smoking rates according to 2021 statistics

Kiribati	Nauru	Greece	Serbia	Russia	Jordan	Indonesia	Bosnia and Her	Lebanon
52.40%	47.50 %	42.65%	41.65 %	40.90%	40.45%	39.90%	38.60%	38.20%

Source: Prepared by the researcher based on the data published on the site:

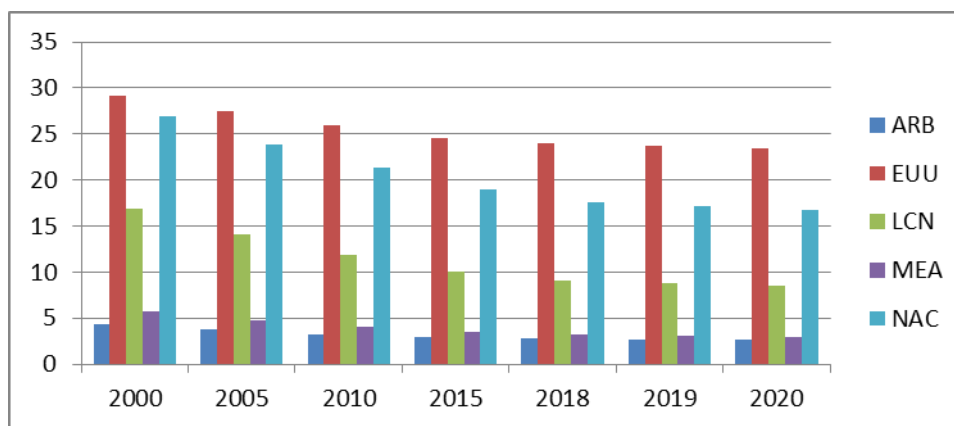
(<https://worldpopulationreview.com>, 2022)

4.1.1 Analysis of data on the prevalence of smoking among females in the world: The prevalence of smoking among females means the percentage of women aged 15 years and over who smoke any type of tobacco, including cigarettes, cigars and pipes, and the data on the **prevalence** of: smoking for females for a group of regions of the world for the period (2000-2020) were relied upon, where the representative regions were selected as follows:

- The Arab world is symbolized by the symbol ARB
- The European Union (EUU)
- Latin America and the Caribbean (LCN)
- Middle East and North Africa (MEA)
- North America, symbolized by the symbol (NAC)

The following figure represents the prevalence of smoking, female (% of adults) in the studied areas:

Figure N° (1): Smoking prevalence rate (% of adults)



Source: Prepared by the researcher based on data published on the World Bank website

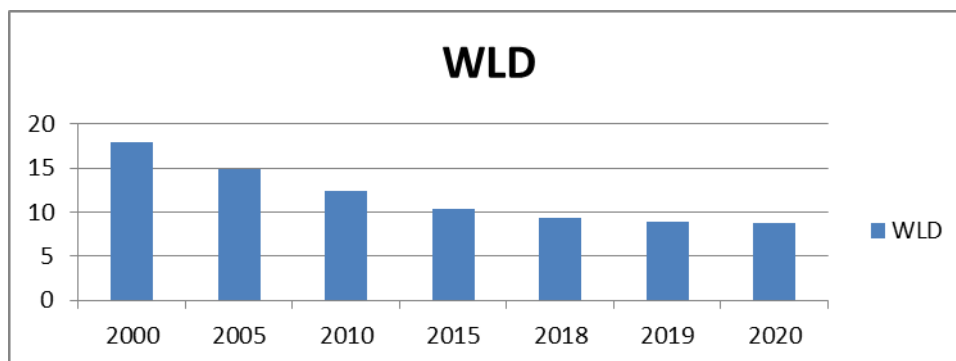
(<https://www.albankaldawli.org/>, 2022)

Through the previous figure, we can see that the largest prevalence rates of smoking among females were in the European Union (EUU), followed by North America (NAC) and Latin America and the Caribbean (LCN). In the last ranks there are the Middle East and North Africa, or in general the Arab world, which ranks last compared to the mentioned regions, due to the

Arab culture, which does not encourage smoking among females compared to the culture of the European Union and other regions.

The prevalence rate of smoking among females in the world for the period (2000-2020) can also be represented in the following figure, where we note a decrease in the prevalence rates among females in 2020 compared to the year 2000, due to the health damage that affects this segment, especially in pregnancy and childbearing, which led to this segment avoiding smoking toxins.

Figure N° (2): Global smoking prevalence (% of adults)

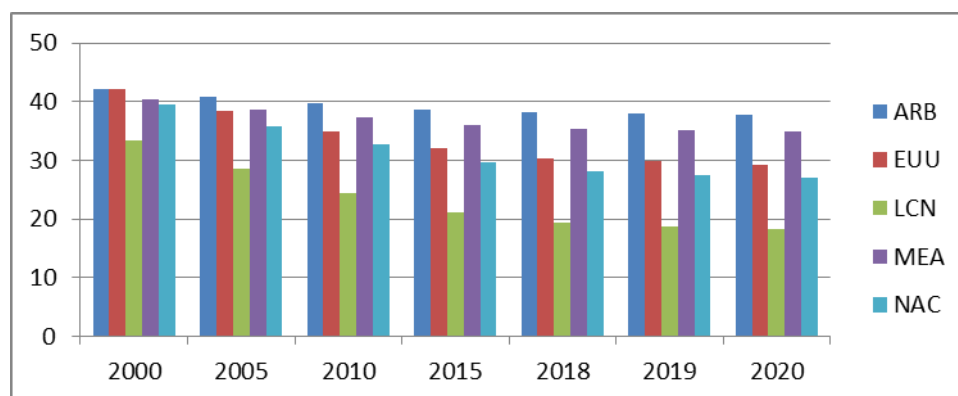


Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

4.1.2 Analysis of global male smoking prevalence data:

The prevalence of smoking among males means the percentage of males aged 15 years and over who smoke any type of tobacco, including cigarettes, cigars and pipes, and the data on the prevalence of smoking for males for a group of regions of the world for the period (2000-2020) were relied upon, where the same previously represented regions were selected as follows:

Figure N° (3): Smoking prevalence rate of males (% of adults)

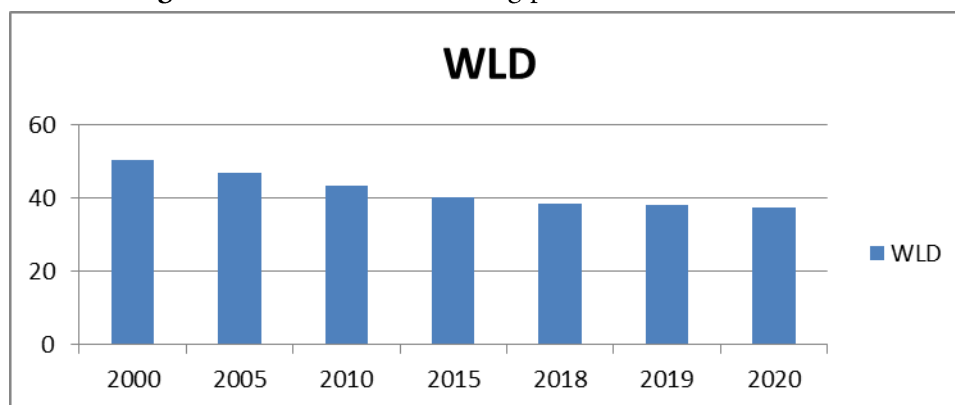


Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

Through the previous figure, we can see that the largest prevalence rates of smoking among males were in the Arab world (ARB), including the countries of the Middle East and North Africa (MEA), then the European Union (EUU), followed by North America (NAC) and in last place. Latin America and the Caribbean (LCN) due to the presence of the most important negative causes of smoking in the occupied countries of the first ranks, the most important of which are the problems of unemployment among males, the lack of monitoring of children in adolescence, and the spread of most types of smoking, especially shisha, in some Arab regions compared to European countries.

The prevalence rate of smoking among males in the world for the period (2000-2020) can also be represented in the following figure, where we note a slight decrease in the prevalence rates among males in 2020 compared to the year 2000, due to the continued existence of the obsession with unemployment that worries young people, which is one of the most important causes of smoking abuse in the mentioned areas.

Figure N° (4): Global smoking prevalence (% of adults)



Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

4-2- Smoking in the Arab world: The rates of smoking in the Arab world vary from one country to another, due to several reasons, including the different culture of the Arab peoples and their change, in addition to the economic strength of the state, and we also find strict laws issued by the competent authorities, and we can mention some percentages for some Arab countries as follows:

- **For smokers in Egypt:** To reduce the percentage of smokers in Egypt, the state issued a law prohibiting smoking in public places such as health and educational facilities, government places, sports and social clubs and youth centers, as well as preventing tobacco advertising or promotion, and although smoking is more common among men than among women, the number of women smokers is increasing in this country, where the Eastern Tobacco Company (ETC) dominates.) on the tobacco industry in Egypt, and since tobacco cultivation is prohibited in Egypt, the manufacturer relies entirely on tobacco imported from India, China, Brazil and Italy, where we

find that 20% of the population uses tobacco products daily, an average of 20 billion cigarettes annually, and shisha comes second only to cigarettes.

- **For smokers in Saudi Arabia:** Smoking is prohibited in Saudi Arabia in all public places such as hospitals, research centers, airports, workplaces, universities, government buildings, places associated with tourism, education-related facilities such as schools and universities, all public transport and associated facilities, conferences and public gatherings, sports institutions, charities, and indicates Official figures for 2012 indicated that there are about six million smokers in the Kingdom, including 800,000 middle and high school students, and about 10% of smokers were women, and in a study conducted in 2009 found that smoking was widespread in all age groups The minimum percentage of smokers was among university students, reaching about 13.5%, while the highest percentage was among the elderly, reaching about 25%. The study also found that the average percentage of Male smokers is much higher than females; it was 26.5% for males, while females were only 9.

- **For smokers in Jordan:** In 1924, the first factory for the manufacture of smoke was established in Jordan, where tobacco companies were producing cigarettes made from Turkish smoke, until World War II came and the taste of smokers changed, so they switched to smoking cigarettes made of virgin tobacco, so that about 99% of smokers in Jordan prefer the virgin cigarette, and this naturally necessitated the orientation of farmers to grow virgin tobacco, and according to 2021 statistics, we find that 6% of the Jordanian GDP is spent on smoking In addition to 4.4% of the percentage of household spending on smoking and 200 million dinars is the percentage of annual spending on diseases caused by smoking, we find that 35.8% smokers of regular cigarettes, 11.7% smokers of electronic cigarettes and 4% smokers of regular and electronic cigarettes, and statistics also show that 8.1% of Jordanians quit smoking.

- **For smokers in Lebanon:** Law 174 was issued by the House of Representatives in January 2011, which aims to "reduce smoking and regulate the manufacture, packaging and advertising of tobacco products", and to ban smoking in closed public places by one hundred percent, except for the hospitality sector, provided that a fine equal to one fifth of the minimum wage is imposed on anyone who smokes in closed public places, workplaces and public transport, and according to 2021 statistics, we find that 40% of Lebanese students between the ages of 13 And 15 years old smoke cigarettes.

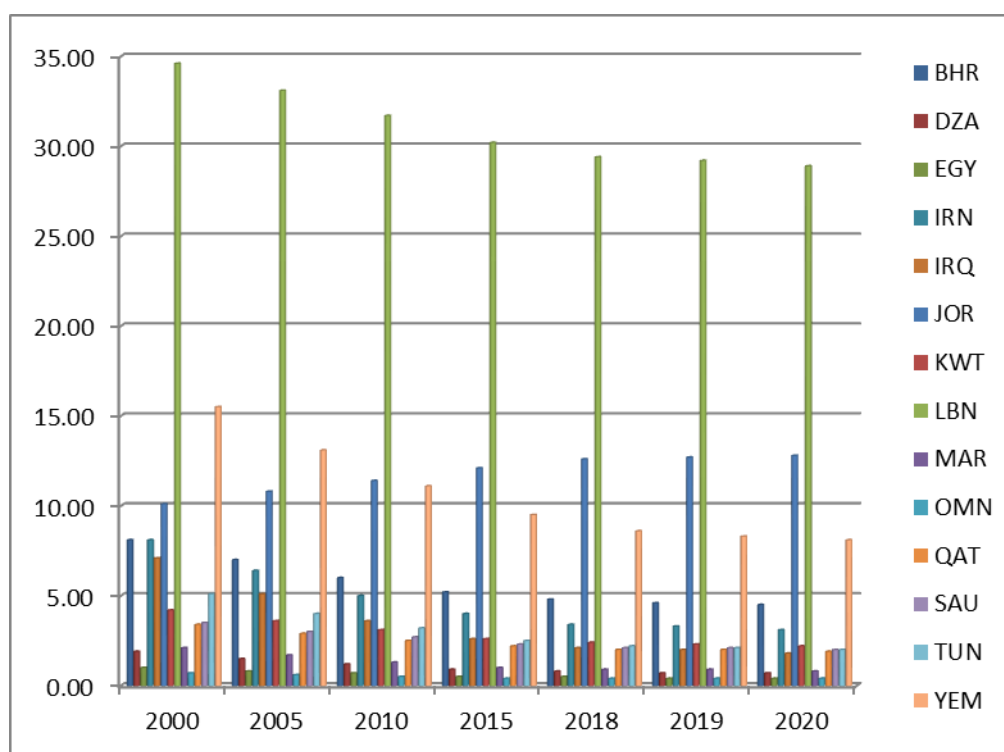
- **For smokers in Iraq:** A study conducted in 2015 reported that about 55 Iraqis die daily due to smoking-related diseases and widespread smoking in Iraq is culturally acceptable: according to 2021 statistics, 31% is the smoking rate in men and 4% is the smoking rate in females, while 13% of Iraqi regions do not have smoking cessation programs aimed at helping smokers quit. :

- **For smokers in Morocco:** In 2020, the Moroccan government raised taxes on cigarettes, which led some tobacco companies to impose an increase in cigarette prices, and statistics for the year 2021 indicate that Morocco ranks first in the Mediterranean region as the largest country consuming tobacco, where we find that 15 billion cigarettes per year is the rate of smoking Moroccans, 16 cigarettes per day is the rate of male smoking and 8 cigarettes per day is the rate

of female smoking, while Statistics show that 15 billion dirhams is the average annual spending on smoking, and 13% of smokers in Morocco are under the age of 15.

4.2.1 Analysis of smoking prevalence data among females in the Arab countries: Through the data of smoking prevalence rates among females in a group of Arab countries for the period (2000-2020), it can be represented graphically through the following figure:

Figure N° (5): Smoking prevalence rate of females (% of adults) in the Arab countries

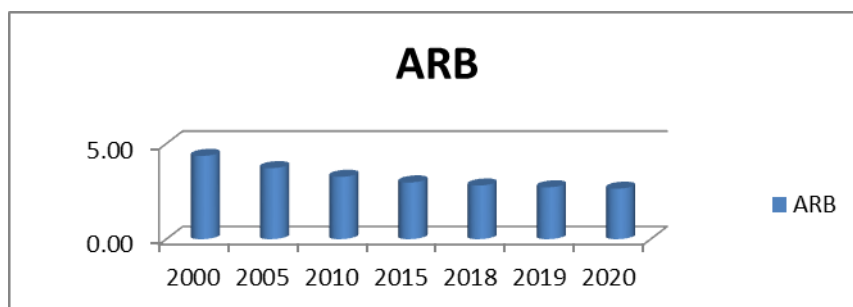


Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

Through the previous figure, we note that the largest rates of smoking prevalence among females in the Arab countries was in Lebanon (LBN), followed directly by the Republic of Yemen (YEM) and in third place Jordan (JOR), and perhaps due to the spread of the phenomenon of smoking in the category of students of the female sex in abundance in these countries, In the last ranks, we find Algeria and Oman due to the strict laws in the field of tobacco in these countries, in addition to the lack of places in abundance dedicated to women, such as cafes, which help spread the scourge of smoking.

The prevalence rate of smoking among females in the Arab world for the period (2000-2020) can also be represented in the following figure, where we note a decrease in the prevalence rates among females in 2020 compared to the year 2000, due to educating the female sex of their potential risks, especially in the periods of pregnancy, childbearing and health complications, in addition to religious awareness in this field and the customs and traditions of Arab countries.

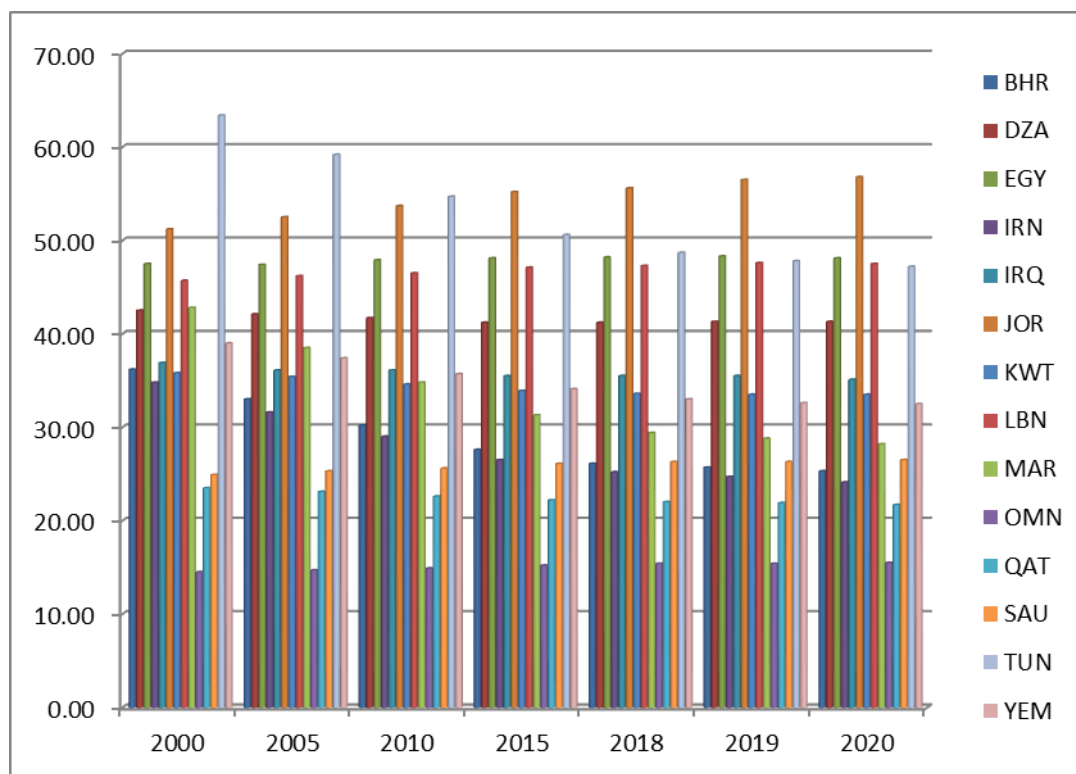
Figure N° (6): Smoking prevalence rate of females (% of adults) in the Arab world



Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

4.2.2 Analysis of smoking prevalence data among males in the Arab countries: Through the data of smoking prevalence rates among males in a group of Arab countries for the period (2000-2020), it can be graphically represented by the following figure:

Figure N° (7): Smoking prevalence rate of males (% of adults) in the Arab countries



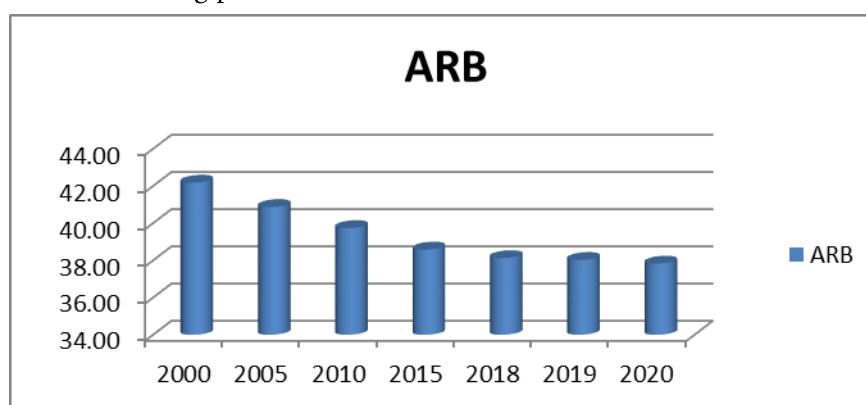
Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

Through the previous figure, we note that the largest prevalence rates of smoking among males in the Arab countries was in Tunisia (TUN), followed directly by Jordan (JOR) and in third place Egypt and Lebanon, where we find one of the reasons for the high smoking among males in these

countries is the spread of smoking through shisha also among students in schools of the male sex more than females, In the last ranks, we find Saudi Arabia and Qatar due to the strict laws in the field of tobacco in these countries, in addition to educating young people in this field, which helped to prevent the spread of the scourge of smoking.

The prevalence rate of smoking among males in the Arab world for the period (2000-2020) can be represented in the following figure, where we note a decrease in the prevalence rates among males in 2020 compared to the year 2000, due to the awareness of the male sex of potential risks and health complications and directing them to the field of sports in addition to religious awareness in this field in the Arab countries.

Figure N° (8): Smoking prevalence rate of males (% of adults) in the Arab world



Source: Prepared by the researcher based on data published on the World Bank website (<https://www.albankaldawli.org/>, 2022)

5. Conclusion: Through the subject of the study of the health and economic harms of smoking for a sample of Arab countries, various theoretical aspects of tobacco and smoking were addressed in addition to the types of smoking as an introductory stage to the topic, and the most important harms of smoking were also focused on, and through the study it was found that it is not limited to the health aspect only, but also includes the economic and social aspect, where smoking imposes huge costs on smokers, employers and society in general, and I have The World Health Organization estimated the economic damage of smoking at \$ 500 billion per year, where the world spends about 15 percent of the money on health care in treating the remnants of smoking, and through an analytical study of the prevalence rates of smoking by gender in the world and in the Arab world, it was found that the male category has greater prevalence rates than the female category due to many reasons, including the wide spread in some countries among young people, schoolchildren and adolescents, and in some countries due to the spread of unemployment ... As for the development of the phenomenon of smoking, a positive indicator was reached, which is the decrease in prevalence rates in the world due to awareness in this field and the health complications that affected various segments, which led people to tend to things beneficial to health at the expense of smoking, the most important of which is exercise.

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