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Study of Smoking among Females Students in Ibn Sina National Medical College

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ABSTRACT

Background: prevention of smoking is a key strategy to improve general health. However, survey data from Jeddah, Saudi Arabia have indicated that a large number of female medical students are addicted to smoking despite the knowledge of its harmful effects. This article comparatively explores the impact of smoking on health among female medical students in Jeddah, Saudi Arabia. Data were collected as part of a program of qualitative and quantitative research investigating the prevalence of smoking among female medical students. **Objectives:**to study the prevalence of smoking among females in the college of ibn Sina and it is impact on their health in relation to personal and family character, CAP knowledge attitude and practice, and association of medical condition as chronic bronchitis and bronchial asthma.

Methods:the study was conducted among female's students attending college of ibn Sina-Jeddah-Saudi Arabia. An open-ended questionnaire was developed to cover the objectives.

Conclusion: this study indicated that across the targeted sites, the descriptions made by female smokers about the harmful impact of smoking on their health were often vague. After assessment of the risk factor and variables that may increase prevalence of smoking among medical students, the prevalence of smoking was only 7.95% and used to practice smoking habit despite the knowledge of its side effects.

Keywords: Smoking cessation; awareness spreading.

INTRODUCTION

Tobacco has been growing wild in the Americas for nearly 8000 years. Around 2,000 years ago tobacco began to be chewed and smoked during cultural or religious ceremonies and events [1]. Smoking is the leading single cause of preventable disease [2] and death in the western world. Smoking-related mortality is estimated to increase from 3 million annually (1995 estimate) to 10 million annually by 2030, with 70% of these deaths occurring in developing countries [3]. The vast majority of these smokers wish to quit, but find it difficult to do so, in large part because of the addictive effects of nicotine. Smoking cessation treatment represents one of the most cost effective healthcare interventions [4].

Effective behavioral and pharmacological treatments, coupled with professional counselling and advice, are required to improve smoking cessation rates [5]. Since smoking duration is the principal risk factor for smoking-related morbidity, the treatment goals should be early cessation and prevention of relapse [5]. Physicians are uniquely placed to assist in smoking cessation as a crucial preventive medical measure: they are generally accessible to the whole community; are frequently visited; are the preferred source of information on health and lifestyle matters; and have been demonstrated to be effective agents of change [6]. Assuming that physicians' personal attitude towards the issue of smoking cessation counselling is to a great extent formed during their medical education, any successful tobacco control measures within the medical profession will need to begin prior to graduation from medical school. Teaching modules should focus on the responsibility of physicians in disease prevention and training in specific smoking cessation techniques early in undergraduate curricula [7].

Smoking is one of the most prevalent addictive habits, and has deteriorating effects on numerous diseases, such as cardiovascular, respiratory and malignant diseases[8–10].The epidemic of smoking use among young people is defined as a major public health problem in developed and developing countries. The

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purpose of this study was to investigate the reasons for students' smoking status. Smoking leads to 25,000 cases of lung cancer annually in Turkey [11]. Smoking leads to 87% of deaths from lung cancer and about 30% of other cancer-related deaths in developed countries [12].

In November of 2008, the Global Adult Tobacco Survey (GATS) selected 11,200 households in Turkey and interviewed 9030 individuals aged 15 and older living in those households. The GATS was implemented in parallel in a total of 14 countries, including Bangladesh, Brazil, China, the Philippines, India, Mexico, Egypt, Poland, Russia, Thailand, Turkey, Ukraine, Uruguay, and Vietnam. It was the first study dealing with the use of tobacco and tobacco products in Turkey (13). The GATS findings showed that 25.4% of all daily smokers or occasional smokers were in the age group of 15-24; therefore, young adults are the largest at risk group. The male smoking rate was 39.7% within this age group, whereas the female smoking rate in this age group was only 11.7%. Overall, in Turkey, approximately 31.2% of the population currently smokes. According to the World Health Organization (WHO) European Region report [15] , smoking levels among women of different countries vary significantly, but countries tend to fall into 3 distinct groups. In the Nordic and some Western European countries, smoking rates for women and men are similar and are declining. For example, the proportions of male and female smokers are 30% and 30% in Norway, 34% and 28% in Ireland, and 33% and 28% in the Netherlands, respectively. In many countries of Central and Southern Europe, more men than women smoke, though rates among women are also high (63% of men versus 39% of women in Greece, 47% versus 41% in Austria, and 49% versus 38% in Bulgaria). Finally, in the newly independent states of the former USSR, smoking rates are high among men and relatively low among women (64% versus 22% in Belarus; 53% versus 24% in Latvia, and 43% versus 9% in Kazakhstan). Nevertheless, smoking among women is rising rapidly in some of these countries. Across the region, the gender divide in smoking rates is narrower among young people. According to the Global Youth Tobacco Survey (GYTS) conducted from 1999 to 2009, 21% of boys and 17% of girls had smoked cigarettes in the previous 30 days.

The cigarette smoking habits of family members constitutes an important risk factor for the cigarette smoking of youth. Increased level of cigarette smoking and nicotine dependence in youth were observed to coincide with an increase of parental daily cigarette smoking, along with a higher family income. It is recommended that parents, alone with young people, be informed about the hazards of smoking and about smoking cessation. The common assessment of both genetic and environmental factors in the development of smoking habits is of great importance [16].

Smoking causes pathophysiologic changes in the airways, including inflammation and airway hyper responsiveness, that support a role for smoking in asthma pathogenesis, the epidemiologic evidence for an effect of regular active smoking on the onset of asthma is inconsistent with studies showing increased risk, decreased risk, or no association between smoking and asthma [17-23]. Regular smoking is associated with a substantial risk for developing asthma during childhood and adolescence. Those who did not have allergies and those previously exposed to prenatal maternal smoking were at the greatest risk. The clinical and public health implications for our findings are far reaching. Effective tobacco control efforts focusing on the prevention of smoking in children, adolescents, and women of childbearing age are urgently needed to reduce the number of these preventable cases of asthma. The substantially increased risk for developing a common activity-limiting chronic disease such as asthma after initiating regular smoking behavior may provide new motivation for adolescents to refrain from smoking [24].

Recent epidemiological evidence suggests that cigarette smoking is also deleterious to other parts of the gastrointestinal (GI) tract. In this respect, cigarette smoking increases both the incidence and relapse rate of peptic ulcer diseases and delays ulcer healing [25-26]. Smoking is also positively associated with cancers of the stomach, liver, and colon [27]. Despite its detrimental effects on the GI system, cigarette smoking is currently the most consistent epidemiological finding associated with lowered incidence of ulcerative colitis (UC), a kind of inflammatory bowel disease [28]. Cigarette smoke, nevertheless, comprises thousands of chemicals, making it difficult to delineate the contribution of an individual compound to the toxicological and pharmacological properties of cigarette smoke as just described. A number of studies have provided evidence that cigarette smoking is a major cause of gastrointestinal (GI) disorders, which include chronic

inflammation, such as peptic ulcers and inflammatory bowel disease (IBD), and cancers of the GI tract [29-35]. Other study [36] shows that smoking can induce pathogenic and carcinogenic processes in the GI tract. These may lead to severe chronic inflammation and subsequently, the development of cancer at the inflammation sites. Clinical and experimental data have also shown that cigarette smoking is a main risk factor for the induction of inflammatory diseases, such as ulcers and Crohn's disease. Cigarette smoke and its active compounds impair the fundamental structure of the GI tract through the induction of cellular apoptosis and the inhibition of mucosal cell renewal. Cigarette smoke also interferes with the protective mechanisms of the GI tract by decreasing the blood flow in the mucosa and modulating the mucosal immune system. Furthermore, cigarette smoke also inhibits the synthesis and release of EGF and polyamines and thereby, mucus secretion, which plays an important role in protecting mucosal integrity. Chronic inflammation induced by cigarette smoke exposure releases various inflammatory components, including the cytokines, TNF-α, IL-1 and IL-6, and the chemokines, CXCL1 and CXCL8. These inflammatory components are capable of promoting tumor growth, tumor adhesion and invasion. Moreover, these mediators also induce angiogenesis and immune suppression in the tumor microenvironment. Along with the induction of chronic inflammation, cigarette smoke and its active ingredients can directly activate nAChRs, and form DNA adducts to initiate tumorigenesis in the GI tract. In conclusion**:** Cigarette smoke is a detrimental factor affecting the pathogenesis and tumorigenesis of certain disorders in the GI tract.

Coronary heart diseases are emerging as a major health problem in the Eastern Mediterranean region, where the proportion of deaths from CHD ranges from 25% to 45% [61]. More specifically, CHD accounted for 35% of the overall mortality in Jordan [37-38]. As a developing country, Jordan has a high rate of smoking prevalence compared to developed countries [37-39]. Furthermore, Jordanians view smoking as a social habit; having coffee and cigarettes with friends and family members is deeply rooted in the culture. During 2002−2006, 50% of adult men and 11% of adult women smoked [40-42] . Arecent series of surveys in Jordan estimated smoking rates of 24.9% among youth, with a 76.3% self-report of SHS exposure [42] , 22.4% among male physicians [43], and 28.6% among college students [44-45] , which rose to 35% in 2008 [46] . Since cigarette smokers are two-to-three times more likely to die from coronary heart disease than nonsmokers [38]. Thus, all evidence indicates that a country with high smoking prevalence faces major risks of CHD related morbidity and mortality among the population [37-41]. Furthermore, due to the impact of CHD on public health and the escalating cost of health care, strategies for smoking cessation are becoming increasingly important for Jordan. Also, the beneficial effect of smoking cessation on prognosis after the occurrence of CHD due to a decreased risk of secondary cardiovascular disease events is very obvious [47-49].

METHODS

Study setting:

Medical department in the college of Ibn Sina-Jeddah- Saudi Arabia.

Study design:

Cross-sectional study was conducted among female medical students in the college of ibn Sina.

Variables:

Female medical students in the college of ibn Sina were selected randomly, weight and height were measured using standard techniques and equipment "Anthropometry", Blood pressure was measured using standard technique and method.

Socio-demographic variables:

Personal Data:

Last year grade (excellent – very good – good – fair – failed)

Residency during academic year (with family - university accommodation - separate private house - shared private house)

History of spending spare time (sports - watching TV - meet friends outside - use computer - go to club - go to coffee - shopping with friend – others)

History of using Treatment for allergy (non – skin – nasal – eye – multiple)

History of using Treatment for asthma (Yes/No)

Smoking habit (smoker – Ex-Smoker – Irregular smoker – Non-Smoker)

Family History:

Education of the father (Do not read or write - Read and write – Essential – Average – university – Higher)

Education of the mother (Do not read or write - Read and write – Essential – Average – university – Higher)

Occupation of father (Higher clerical - Average clerical - skilled work - manual work - un employment – dead)

Occupation of the mother (Higher clerical - Average clerical - skilled work - manual work - un employment – dead)

Smoking of mother (smoker – Ex-Smoker – Non-Smoker)

Family history of asthma (father – mother – sibling – No)

General knowledge about smoking:

(Yes//No) questions about smoking regarding (calm down nerves - mood improvement - weight reduction - increase self-confidence - improve social skill – irritant for others - offensive odor to clothes - waste of money - difficult to quit because of withdrawal symptoms - old smokers encourage young ones to smoke – help in early maturity).

(Yes//No) question about side effects due to smoking as (lung cancer - mortality - increase skin wrinkles - premature aging)

General knowledge about cigarettes components (Nicotine – Tar – CO – ammonia – glutone – arsenic – hydrogen – lead – cyanide - sodium bromide)

General knowledge about cigarettes components causing addiction

General knowledge about cigarettes components causing cancer.

Reading about smoking (No – newspaper – magazine – photos)

Health education about health subjects last year (drugs – feeding – smoking – AIDS – sports)

Data collection:

Data collection took place between(June-Novermber,2016) A structured questionnaire was developed to cover the research objectives. Students were approached and given a brief description of the study. If they agreed to participate, the student administered the questionnaire verbally. Almost 10 minutes were needed to complete the questionnaire followed by taking Anthropometry and Blood pressure measures. The process continued till the required sample size was completed.

Data analysis:

Statistical analyses were performed to detect the association between different independent variables by using SPSS. All independent variables was entered into simultaneous multiple regression analysis to determine the most important variables considered as predictors for regular smokers.

RESULTS

The demographic characteristics of the study sample are shown in table (1) the total number of the participant was 1045, of which 474 (46.38%) were had excellent grade last year. Most of the participants 834 (79.81%) are living with their family while 46 (4.40%). About 680 (65.13%) did not received treatment for allergy while 364 (34.87%) did receive. Most of the participants 905 (88.38%) did not receive treatment for asthma while 119 (11.62%) did receive.

Fig (1) shows the distributions of smoking among female medical students in the college of ibn Sina presented only 83 (7.95%) are smoking while non-smokes, ex-smokers, and irregular smokers (81.92%, 2.01%, and 8.12% respectively).

In **Fig (2)** show the relation between the demographic character and the smoking habits that present 409 of the total participant were non-smokers and had excellent grade last year and 312 were non-smokers and had very good grade last year while 33 of the participant were smokers and had excellent grade last year and 29 were smokers and had excellent grade last year. As shown in **Fig (3)** total of 692 of the participants were non-smoker and living with family while 58 of the smoker were living.

Fig (4) shows the distribution of student female according to smoking habit and spending spare time; most of the non-smokers 253 (24.44%) were using computer in the spare time while smoker 29(25%) were watching TV with friends.

Fig (5) shows the distribution of student female according to smoking habit and history of using treatment for allergy; most of the participant 584 (55.94%) are non-smokers and did not use treatment for allergy.

Fig (6) shows the distribution of student female according to smoking habit and Using treatment for Asthma; most of the participant 754 (73.63%) are non-smokers and did not use treatment for asthma.

Fig (7) shows the distribution of students female at Ibn Sina national collage according to smoking habit and education of the father; most of the participants smokers & non-smokers have a university educated father.

Fig (8) shows the distribution of students female at Ibn Sina national collage according to smoking habit and education of the mother; most of the participants smokers & non-smokers have a university educated Mother.

Fig (9) shows the distribution of students female at Ibn Sina national collage according to smoking habit and occupation of the father; most of the participants smokers & non-smokers have father work in high clerical job.

Fig (10) shows the distribution of students female at ibn Sina national collage according to smoking habit and occupation of the Mother; most of the participants smokers & non-smokers have un-employed Mather.

Table (2) show distribution of students female at ibn Sina national collage according to smoking habit and smoking of the mother; most of the smokers and non-smokers have non-smokers mother.

Table (3) shows the distribution of student's female at ibn sina national college according to smoking habit and Family history for asthma; most of the smokers and non-smokers have no family history of asthma.

Table (4): shows the distribution of students female at ibn sina national college according to smoking habit and other believes in smoking; smoker think that smoking calm down the nerve and improve the mood while non-smoker are not, smokers think that smoking reduce the weight and non-smokers are not, both smokers and non-smokers did not believe that smoking improve self-confidence, social skills, and help in early maturity. In the other hand both smokers and non-smokers know that smoking is irritant to others, has offensive odor to clothes, waste of money, and difficult to quit because of withdrawal symptoms. Most of the participants believe that old smokers encourage young ones to smoke while most of the irregular smoking did not believe.

Table (5) shows the distribution of students' female at ibn sina national college according to smoking habit and smoking side effect, most of the participants know that smoking may lead to lung cancer, mortality, increase skin wrinkles, and premature aging.

Fig (11) shows the general knowledge about cigarettes components; in the questionnaire we asked about 10 of the cigarettes components, knowledge assessment were as the following [participants who now 0, 1 of the component has poor knowledge 2, 3 of the components has good knowledge 4, 5 has very good knowledge 6 and more has excellent knowledge]. As the graph show only 19% has excellent knowledge about cigarettes components while 45% has good level of knowledge.

Fig (12) shows the general knowledge about cigarettes components causing addiction; 80.75% of the participants know that nicotine has addiction effect on the body.

Fig (13) shows the general knowledge about cigarettes components causing cancer; 40.69% of the participants believed that nicotine has carcinogenic effect on the body.

Fig (14) shows the distribution of students female at ibn sina national collage according to smoking habit and did you read about smoking last year; most of the participants did not read anything about smoking last year.

Fig (15) shows the distribution of Students female according to smoking habit with reading about health subjects last year; most of the participants did not read about healthy subjects last year.

DISCUSSION

Smoking has been a global problem generally caused negative effects on health, psychological, economic, social and cultural fields, where smoking is killing more than five million people annually, and no matter how different forms of smoking or age smokers, it affects various body organs .Where it is present largely in the parts of the Kingdom of Saudi Arabia, particularly among students from the secondary schools and were also present in universities and college. Our study shows that the prevalence of smoking was 7.95% among the studied female students. Smokers were found more among those who received treatment of allergy, asthma and have family history for asthma, among people who suffer from chest tightness and among people who gain weight. Education of the father and mother show no significant value among smokers and non-smokers; the higher percent of both founded among the university educated father and mother (53% and 38.10% respectively). In relation to occupation father and mother show no significant value among smokers and non-smokers; the higher percent of both founded among the higher clerical father's job (38.55% and 32.90% respectively) and un-employment mother (51.81% and 52.75% respectively). Our results shows 63.10% of the smoker have non-smoker mother and 88.30% have non-smoker mother. In the other hand the study shows smokers and ex-smokers were tend to be higher among those who spending spare time with friends outside home, 34.52% of the irregular smoking were spending spare time watching TV with friends, and 29.76% of the non-smokers were spending spare time using computers.

As general perception, 73.81% of the smoker believes that smoking calm down nerves and improve the mood, 50% of the smoker believes that smoking help to reduce weight. Most of the participant 83.4% did not believes that smoking improve on self-confidence or improve social skill in the and 86.27% not believed that smoking help in early maturity other hand 96.76% of all participant believes that smoking is irritant to others, 93.33% believes that smoking cause offensive odor to clothes, 93.23% believes that smoking is a waste of money. Our study shows 68.58% of the participants believe Smoking difficult to quit because of withdrawal, 56.14% of the participants think that old smokers encourage young ones to smoke. Overall 97.52% of the participants know that smoking cause lung cancer, 76.97% know that smoking cause increase skin wrinkle, and 81.44% know that smoking cause premature aging. Smokers and non-smokers were more common among people who did not read about smoking subject last year. After assessment the all parts of the study we found that smoking used to be practice and habit despite the knowledge of its side effects and give hint of importance of putting strategies to reducing smoking prevalence and associated health risks.

Smoking restrictions in the workplace are now common in many jurisdictions with evidence suggesting that smoke free legislation has a positive impact on those who are occupationally exposed [50-51] . Smoke free policies have the potential to improve health outcomes through the elimination of exposure to second-hand smoke. Additionally such policies have the potential to decrease the number of cigarettes smoked and increase cessation among smoker, while workplace bans have the capacity to reduce smoking prevalence and daily smoking [52] . This move to adopt best practice in public health tobacco control provides an opportunity to demonstrate the University's commitment to the health of its students and staff. However, successful implementation of a smoke free policy at a large University presents a number of challenges including the diversity within the Curtin community with a population that vary in terms of age, SES, education level and cultural background, Smoke-free policies can reduce harms associated with second-hand smoke [53] and have the potential to reduce the number of cigarettes smoked and increase smoking cessation.

CONCLUSIONS

This study indicated that across the targeted sites, the descriptions made by female smokers about the harmful impact of smoking on their health were often vague. After assessment of the risk factor and variables that may increase prevalence of smoking among medical students, the prevalence of smoking was only 7.95% and used to practice smoking habit despite the knowledge of its side effects.

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REFERENCES

1. https://www.cancercouncil.com.au/31899/uncategorized/a-brief-history-of-smoking/
2. **Bullen C (2008):** Impact of tobacco smoking and smoking cessation on cardiovascular risk and disease. Expert Rev Cardiovasc Ther., 6: 883–95.
3. **Fagerström K(2002):** The epidemiology of smoking: health consequences and benefits of cessation. Drugs, 62 (2) :1–9.
4. **Cornuz J, Humair J, Seematter L, Stoianov R, van Melle G, Stalder H and Pécoud A (2002):** Efficacy of resident training in smoking cessation: a randomized, controlled trial of a program based on application of behavioral theory and practice with standardized patients. Ann Intern Med .,37:136- 429
5. **Rigotti N, Bitton A, Richards A, Reyen M, Wassum K and Raw M(2009):** An international survey of training programs for treating tobacco dependence. Addiction , 104:288–96.
6. **Scott C, Neighbor W(1985):** Preventive care attitudes of medical students. Soc Sci Med. , 21: 299–305.
7. **Strobel L, Schneider NK, Krampe H, Beissbarth T, Pukrop T, Anders S, West R, Aveyard P and Raupach T(2012):** German medical students lack knowledge of how to treat smoking and problem drinking. Addiction, 107:1878–82.
8. **Bartecchi CE, MacKenzie TD and Schrier RW (1994):** The human costs of tobacco use. N Engl J Med. ,330(13):907–12.
9. **Bartecchi CE, MacKenzie TD and Schrier RW (1995):** The global tobacco epidemic. Sci Am.,272(5):44
10. **Lee KS, Park CY, Meng KH, Bush A, Lee SH, Lee WC *et al.*(1998):** The association of cigarette smoking and alcohol consumption with other cardiovascular risk factors in men from Seoul, Korea. Ann Epidemiol ., 8(1):31–8.

11. **Bozkurt AI, Şahinöz S, Özçırpıcı B *et al*.(2006):** Patterns of active and passive smoking, and associated factors, in the South-east Anatolian Project (SEAP) region in Turkey.BMC Public Health, 6: 1
12. **Doll R, Peto R and Boreham J(2004):** Mortality in relation to smoking: 50 years' observations on male British doctors. BMJ., 328: 1519.
13. **Arastirmasi T and Yetiskin K (2009):**Turkish.Global Adult Tobacco Survey Statistical Institute, 16.
14. World Health Organization (WHO) WHO advisory note: Information for the media, smoking patterns in Europe. 2010 Retrieved fromhttp://www.euro.who.int/en/what-we-publish/information-for-the-media/sections/features/2010/01/women-and-tobacco/smoking-patterns-in-europe.
15. **OncelS ,GebiziogluO and AliogluF (2011):** Risk factors for smoking behavior among university students.Turk J Med Sci.,6:1071-1080
16. **Higgins MW, Keller JB and Metzner HL(1977):** Smoking, socioeconomic status, and chronic respiratory disease. Am Rev Respir Dis .,116: 403–410.
17. **Chen Y, Dales R, Krewski D and Breithaupt K(1999):** Increased effects of smoking and obesity on asthma among female Canadians: the National Population Health Survey, 1994–1995. Am J Epidemiol., 150:255–262.
18. **McWhorter WP, Polis MA, Kaslow RA(1989):** Occurrence, predictors, and consequences of adult asthma in NHANESI and follow-up survey. Am Rev Respire Dis .,139:721–724.
19. **Plaschke PP, Janson C, Norrman E, Bjornsson E, Ellbjar S and Jarvholm B (2000):**Onset and remission of allergic rhinitis and asthma and the relationship with atopic sensitization and smoking. Am J RespirCrit Care Med .,162:920–924.
20. **Vesterinen E, Kaprio J and Koskenvuo M(1988):** Prospective study of asthma in relation to smoking habits among 14,729 adults. Thorax , 43:534–539.
21. **Flodin U, Jonsson P, Ziegler J and Axelson O (1995):**An epidemiologic study of bronchial asthma and smoking. Epidemiology , 6:503–505.
22. **Basagana X, Sunyer J, Zock JP, Kogevinas M, Urrutia I, Maldonado JA, Almar E, Payo F and Anto JM(2001):** Incidence of asthma and its determinants among adults in Spain. Am J RespirCrit Care Med.,164:1133–1137.
23. **Frank D, Gilliland, Talat Islam, KirosBerhane, atal. (2006):**Regular Smoking and Asthma Incidence in Adolescents. .Am J RespirCrit Care Med. , 174(10): 1094–1100
24. **Sontag S, Graham DY, BelsitoA *et al*.(1984):** Cimetidine, cigarette smoking, and recurrence of duodenal ulcer. N Engl J Med.,311:689–693.
25. **Ma L, Chow JYC and Cho CH(1999):** Cigarette smoking delays ulcer healing: role of constitutive nitric oxide synthase in rat stomach. Am J Physiol.,276:G238–G248.
26. **Michael JT, Henley SJ, Eugenia EC(2002):** Tobacco use and cancer: an epidemiologic perspective for geneticists. Oncogene,21: 7307–7325.
27. **Calkins BM(1989):**A meta-analysis of the role of smoking in inflammatory bowel disease. Dig Dis Sci.,34:1841–1854.
28. **WHO Media Centre**, **graphic health warnings on tobacco packaging(2011):** the WHO report on the global tobacco epidemic, 2011 examines anti-tobacco mass-media campaigns. Cent Eur J Public Health ,19: (133) 151.
29. **Shin VY and Cho CH(2005):** Nicotine and gastric cancer. Alcohol, 35: 259-264.
30. **Chu KM, Cho CH and Shin VY(2013):** Nicotine and gastrointestinal disorders: its role in ulceration and cancer development. Curr Pharm Des .,19: 5-10.
31. **Peluso ME, Munnia A, Srivatanakul P, Jedpiyawongse A, Sangrajrang S, Ceppi M, Godschalk RW, van Schooten FJ and Boffetta P(2013):** DNA adducts and combinations of multiple lung cancer at-risk alleles in environmentally exposed and smoking subjects. Environ Mol Mutagen, 54: 375-383.
32. **Jain G and Jaimes EA(2013):** Nicotine signaling and progression of chronic kidney disease in smokers. Biochem Pharmacol., 86: 1215-1223.
33. **Li W, Zhou J, Chen L, Luo Z and Zhao Y (2011):** Lysyl oxidase, a critical intra- and extra-cellular target in the lung for cigarette smoke pathogenesis. Int J Environ Res Public Health ,8: 161-184.
34. **Zhang L, Ren JW, Wong CC, Wu WK, Ren SX, Shen J, Chan RL and Cho** CH(2012): Effects of cigarette smoke and its active components on ulcer formation and healing in the gastrointestinal mucosa. Curr Med Chem .,19: 63-69.
35. **LI IF, CHAN RL, SHEN LI, ZHANG L, WU WK, WANG L *et al*.(2014):** Cigarette smoking and gastrointestinal diseases: The causal relationship and underlying molecular mechanisms (Review), INTERNATIONAL JOURNAL OF MOLECULAR MEDICINE ,34: 372-380.
36. **World Health Organization Statistical Information System(2006):** Core Health Indicators World Health Statistics , 42 :455-462
37. **Directorate of information studies and research(2005):** Ministry of Health, Jordan.Mortality in Jordan , 18 : 213- 223
38. **Annual Report; Ministry of Health(2008):** Amman, the Hashemite Kingdom of Jordan, 17 :388-391
39. **Centers for Disease Control and Prevention & World Health Organization(2009):** Global School-Based Student Health Survey: Jordan Global School Based Student Health Survey. on August 18.

40. **Merill RM, Madanat H, Layton JB*et al*.(2009):** Smoking prevalence, attitudes, and perceived smoking prevention control responsibilities and behaviors among physicians in Jordan. Int. Quart. Community Health Educ., 26: 397-413.
41. **Haddad L and Pertro W(2006):** Predictors of intention to quit smoking among Jordanian university students. Can. J. Publ. Health, 97: 9-14.
42. **Haddad LG and Malak MZ (2002):** Smoking habits and attitudes towards smoking among university students in Jordan. Int. J. Nurs. Stud. ,39: 793-802.
43. **Khader YS and Alsadi AA(2008):** Smoking habits among university students in Jordan: Prevalence and associated factors. East.Mediterr. Health J. , 14, 897-904.
44. **Palanisamy P, Govindaswamy B, Yagneswara R and Jawahar F(2009):** Cigarette smoking-effect of metabolic health risk: a review. Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 3(1): 120–7.
45. **Mahesar H, Mahesar SM, Khand FD, Khand A and Seehar GM (2009):** Effect of smoking on blood pressure of inhabitants of Hyderabad vicinity. Sindh University Respiratory Journal, 41(3): 25-30.
46. **Ministry of Health Malaysia, Public Health Institute(2006):** The Third National Health and Morbidity Survey – Smoking.
47. **Beziaud F, Halimi JM, Lecomte P and Tichet J(2004):** Cigarette smoking and diabetes mellitus. Diabetes Metab.,30 (2): 161–6.
48. **Lee J, Johnson C, Rice J, Warren CW and Chen T(2012):** Smoking beliefs and behavior among youth in South Korea, Taiwan, and Thailand. Int J Behav Med., 2(3): 115-28.
49. **Goodman PG, Haw S, Kabir Z and Clancy L(2009):** Are there health benefits associated with comprehensive smoke-free laws. Int J Public Health, 54: 367–378.
50. **Hyland A, Barnoya J and Corral JE(2012)** : Smoke-free air policies: past, present and future. Tob Contro.l, 21(2):154–161.
51. **Fichtenberg CM and Glantz S (2002):** Effect of smoke-free workpalces on smoking behavior: a systematic review. Br Med J., 325(7357):188.
52. **Centers for Disease Control and Prevention(2007):** Reduced secondhand smoke exposure after implementation of a comprehensive statewide smoking Ban–New York, June 26, 2003–June 30, 2004. Morb Mortal Wkly Rep ., 56:705–708. www.cancer.org.

Tables & Figures:

Demographic characteristics.		No.	Percentage %
Last year grade	Excellent	474	46.38%
	very good	385	37.67%
	good	136	13.31%
	fair	20	1.95%
	Failed	7	0.68%
Residency during academic year	with family	834	79.81%
	university accommodation	97	9.28%
	separate private house	68	6.51%
	shared private house	46	4.40%
History of spending spare time	Sports	265	30.18%
	watching TV	149	16.97%
	meet friends outside	287	32.69%
	use computer	6	0.68%
	go to club	51	5.81%
	go to coffee	13	1.48%
	shopping with friend	23	2.52%
	others	84	9.57%
History of using Treatment for allergy	non	680	65.13%
	skin	131	12.55%
	nasal	117	11.21%
	eye	24	2.30%
	multiple	92	8,81%
History of using Treatment for asthma	Yes	119	11.62%
	No	905	88.38%
Smoking habit	smoker	83	7.95%
	Ex-Smoker	21	2.01%
	Irregular smoker	85	8.12%
	Non-Smoker	855	81.92%

Table (1): The demographic characteristics.

Fig (1) Smoking habit among female medical students in the college of ibn sina.

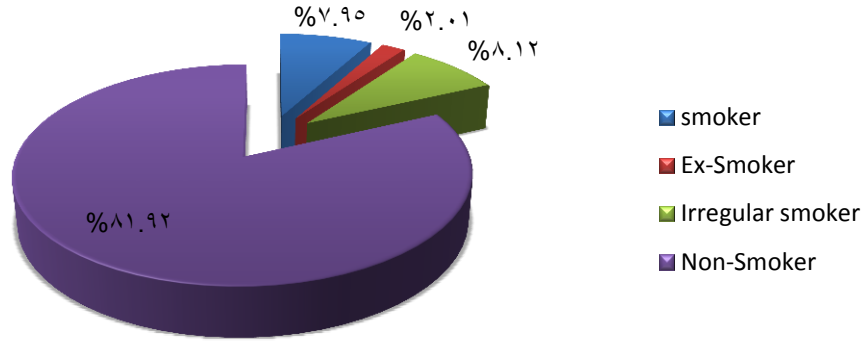


Fig (2): demographic character Last year grade in relation to smoking habits

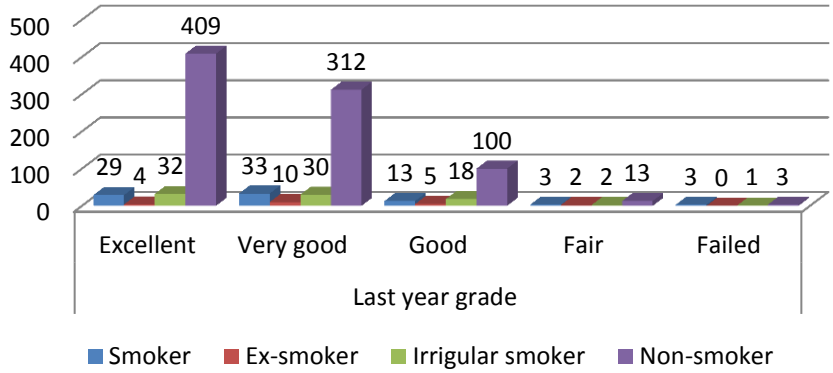


Fig (3): demographic character residence during academic year in relation to smoking habits

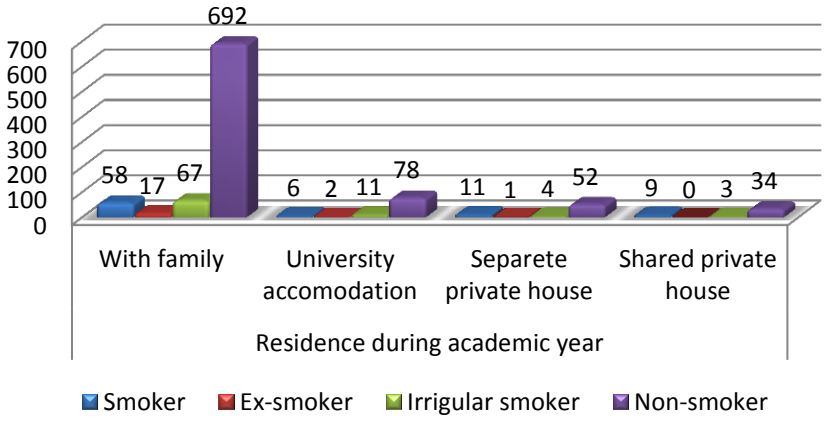


Fig (4): demographic character spending spare time in relation to smoking habits

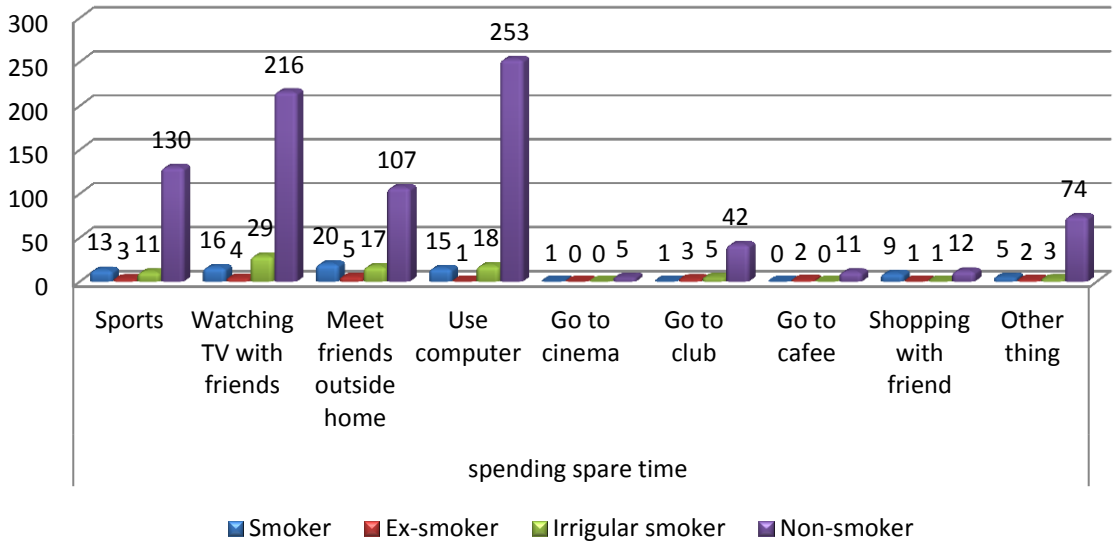


Fig (5): demographic character history of using treatment for allergy in relation to smoking habits

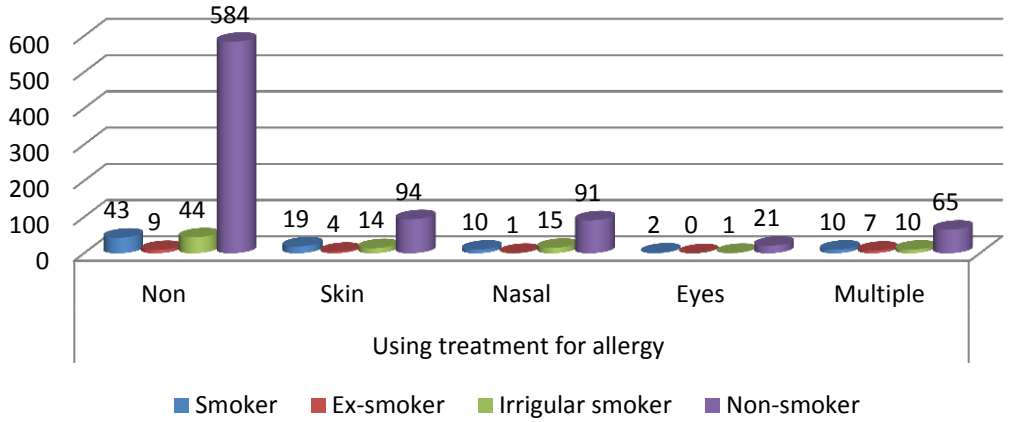


Fig (6): demographic character History of using Treatment for asthma in relation to smoking habits

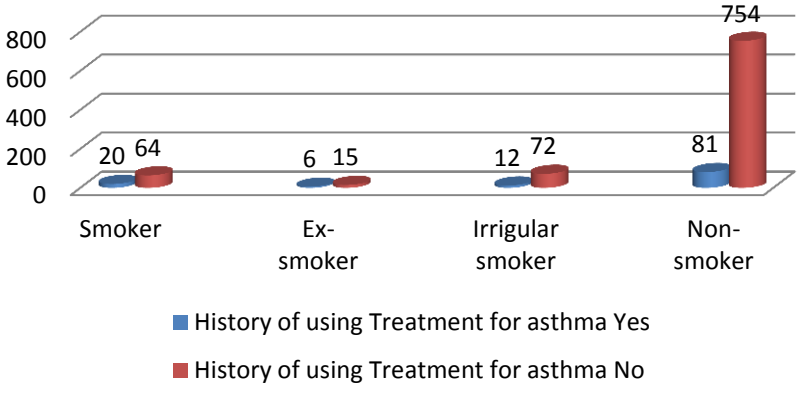


Fig (7): distribution of students female at Ibn Sina national collage according to smoking habit and education of the father

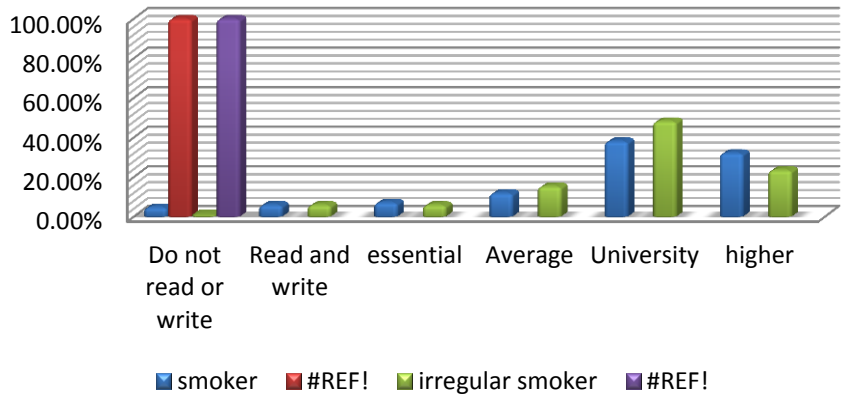


Fig (8) distribution of students female at Ibn Sina national collage according to smoking habit and education of the Mother

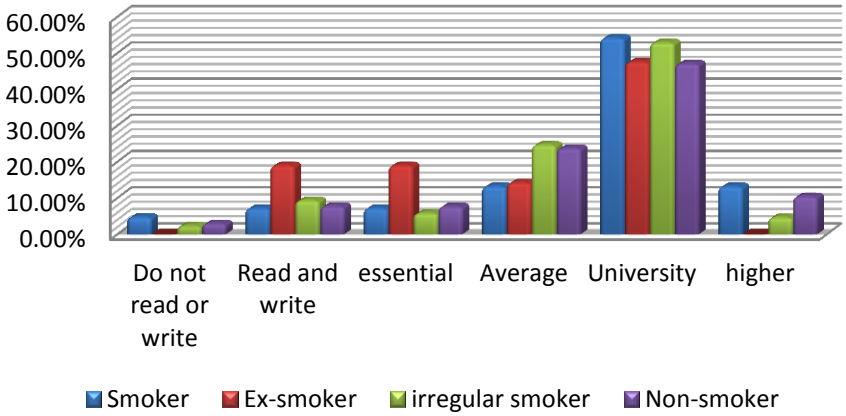
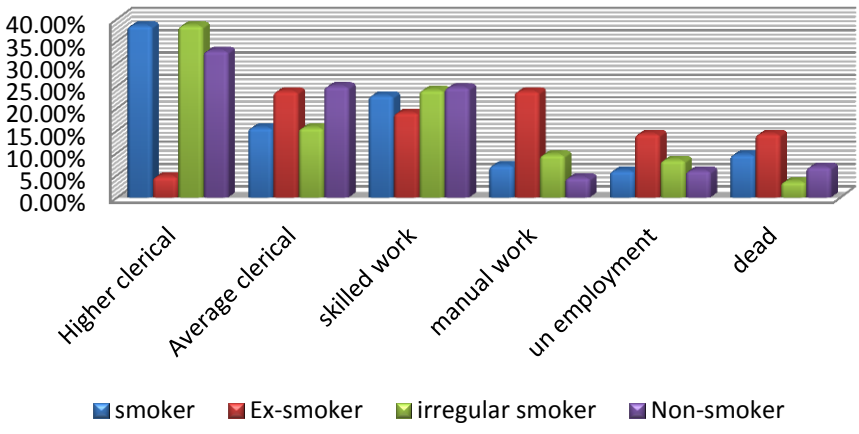
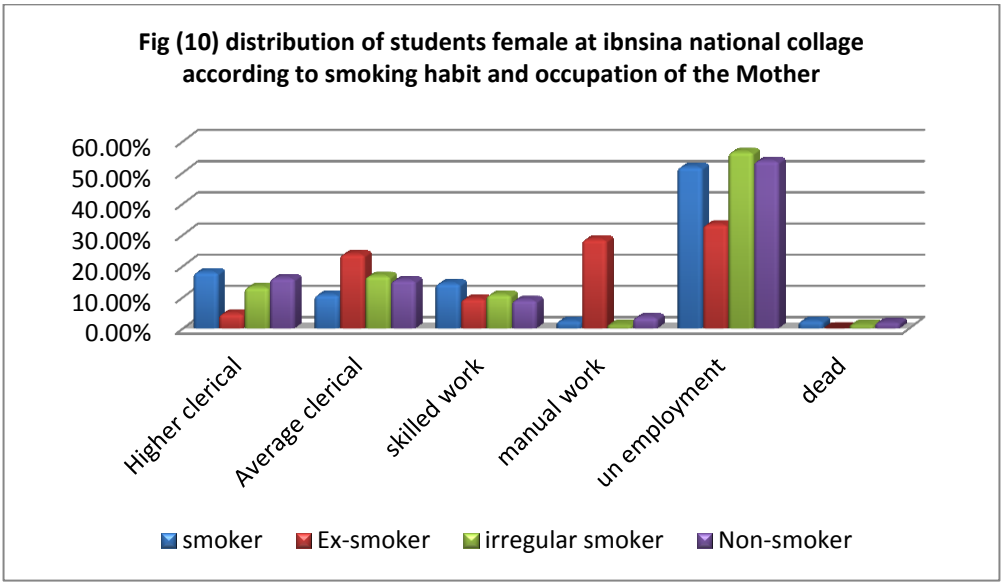


Fig (9) distribution of students female at ibn Sina national collage according to smoking habit and occupation of the father





		smoking of the mother		
		smoker	**Ex-smoker**	**Nonsmoker**
Do you smoke?	**smoker**	23	8	53
		27.38%	9.52%	63.10%
	Ex-smoker	4	2	14
		20.00%	10.00%	70.00%
	irregular smoker	18	2	65
		21.18%	2.35%	76.47%
	Non-smoker	55	39	762
		6.43%	4.56%	89.02%
Total		100	51	894
		9.57%	4.88%	85.55%

Table(2) distribution of students female at ibn sina national collage according to smoking habit and smoking of the mother

		father	**mother**	**both**	**siblings**	**No**	**Total**
Do you smoke?	**smoker**	7	8	2	20	43	80
		9.9%	10.1%	15.4%	12.7%	6.2%	7.9%
	Ex-smoker	1	3	1	8	8	21
		1.4%	3.8%	7.7%	5.1%	1.2%	2.1%
	irregular smoker	6	15	2	12	48	83
		8.5%	19.0%	15.4%	7.6%	6.9%	8.2%
	Non-smoker	57	53	8	118	592	829
		80.3%	67.1%	61.5%	74.7%	85.7%	81.8%
Total		71	79	13	158	691	1013
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

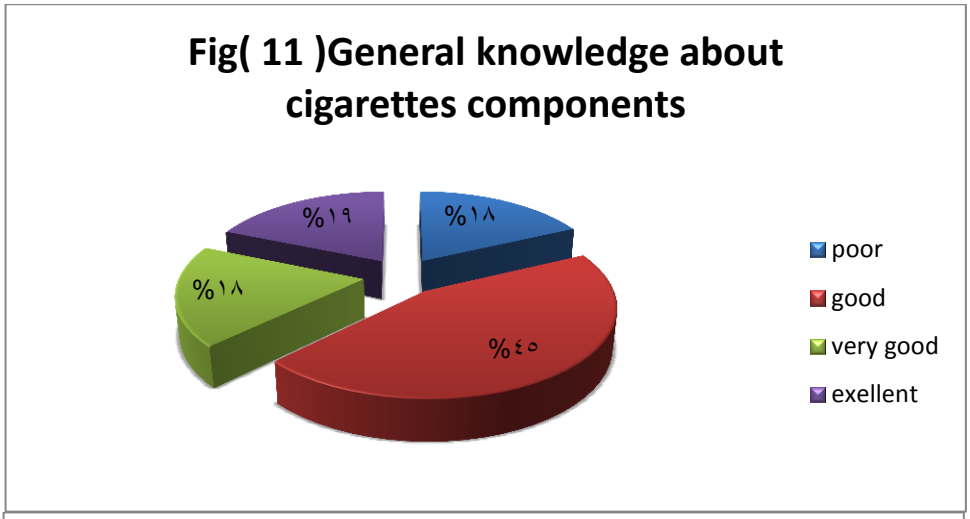
Table (3) distribution of student's female at ibnsina national college according to smoking habit and Family history for asthma

		Do you smoke?				total
		Smoker	**Ex-smoker**	**irregular smoker**	**Non-smoker**	
smoking calm down nerves	**Yes**	62	9	56	384	511
		12.1%	1.8%	11.0%	75.1%	
	No	22	12	27	467	528
		4.2%	2.3%	5.1%	88.4%	
smoking improve mood	**Yes**	62	11	60	397	530
		11.7%	2.1%	11.3%	74.9%	
	No	22	10	23	452	507
		4.3%	2.0%	4.5%	89.2%	
smoking help to reduce weight	**Yes**	42	8	38	354	442
		9.5%	1.8%	8.6%	80.1%	
	No	41	13	45	491	590
		6.9%	2.2%	7.6%	83.2%	
smoking improve on self confidence	**Yes**	24	3	18	127	172
		14.0%	1.7%	10.5%	73.8%	
	No	60	18	64	722	864
		6.9%	2.1%	7.4%	83.6%	
Smoking improve social skill	**Yes**	35	3	23	140	201
		17.4%	1.5%	11.4%	69.7%	
	No	49	18	59	707	833
		5.9%	2.2%	7.1%	84.9%	
Smoking irritant for others	**Yes**	76	20	81	838	1015
		7.5%	2.0%	8.0%	82.6%	
	No	8	1	3	22	34
		23.5%	2.9%	8.8%	64.7%	
offensive odor to clothes	**Yes**	68	18	70	824	980
		6.9%	1.8%	7.1%	84.1%	
	No	16	3	14	37	70
Smoking waste of money	**Yes**	64	17	79	818	978
		6.5%	1.7%	8.1%	83.6%	
	No	20	4	5	43	72
		27.8%	5.6%	6.9%	59.7%	
Smoking difficult to quit because of withdrawal symptoms	**Yes**	63	17	53	583	716
		8.8%	2.4%	7.4%	81.4%	
	No	20	4	30	274	328
		6.1%	1.2%	9.1%	83.5%	
old smokers encourage young ones to smoke	**Yes**	45	16	40	484	585
		7.7%	2.7%	6.8%	82.7%	
	No	38	5	43	371	457
		8.3%	1.1%	9.4%	81.2%	
Smoking help in early maturity	**Yes**	22	4	12	104	142
		15.5%	2.8%	8.5%	73.2%	
	No	61	17	69	745	892
		6.8%	1.9%	7.7%	83.5%	

Table (4): distribution of students female at ibnsina national college according to smoking habit and other believes in smoking

		Do you smoke?				total
		Smoker	Ex-smoker	rregular smoker	Non-smoker	
lung cancer	Yes	79	21	84	837	1021
		7.7%	2.1%	8.2%	82.0%	
	No	5	0	0	21	26
		19.2%	0.0%	0.0%	80.8%	
mortality	Yes	60	19	62	729	870
		6.9%	2.2%	7.1%	83.8%	
	No	24	2	22	127	175
		13.7%	1.1%	12.6%	72.6%	
		22.9%	4.3%	20.0%	52.9%	
increase skin wrinkles	Yes	49	17	61	672	799
		6.1%	2.1%	7.6%	84.1%	
	No	35	4	21	179	239
		14.6%	1.7%	8.8%	74.9%	
premature aging	Yes	50	19	63	715	847
		5.9%	2.2%	7.4%	84.4%	
	No	34	2	19	138	193
		17.6%	1.0%	9.8%	71.5%	

Table (5): distribution of students female at ibnsina national college according to smoking habit and smoking side effect



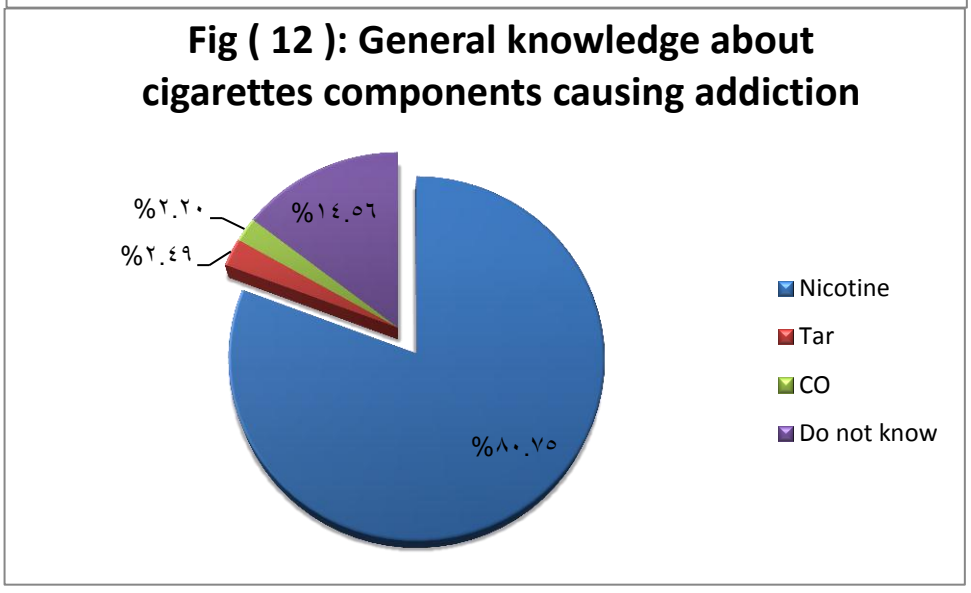


Fig (13): General knowledge about cigarettes components causing cancer

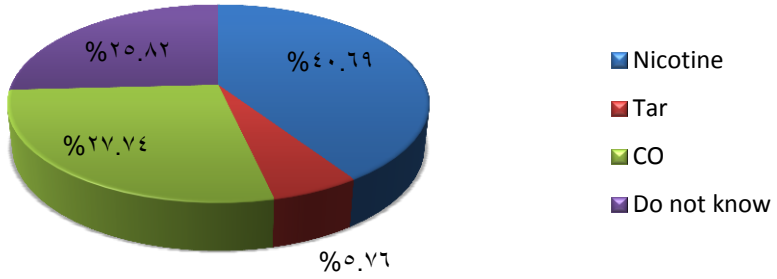


Fig (14): Distribution of students female at ibnsina national collage according to smoking habit and did you read about smoking last year

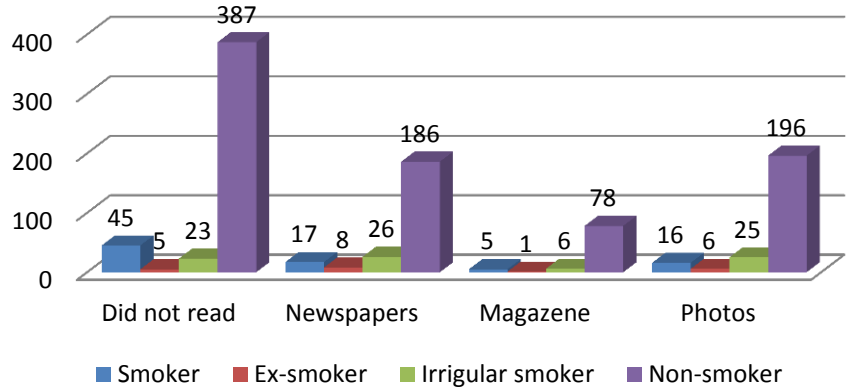


Fig (15): Disterbution of studed female according to smoking habit with reading about health subjects last year