

RESEARCH ARTICLE

Assessment of Perception of Medical Students in Regard to Links between Tobacco or Alcohol Use and Cancer

Fawaz Dabea Alshammari¹, Amany M Khalifa², Ayman Ahmed Kosba², Nuhar A Khalil², Safia M Ali², Mona M Hassouna², Gamal Mohamed Elawad¹, Ibrahim Abdelmajeed Ginaw³, Hussain Gadelkarim Ahmed^{4*}

Abstract

Background: The aim of this study was to assess cancer awareness among medical students in Saudi Arabia toward tobacco and alcohol use as risk factors. **Materials and Methods:** A cross-sectional survey from October to December 2014, covering 1200 medical students, was performed. **Results:** Of the total, 975 (81.25%) responded. The male to female ratio was 1.00:7.125. 96/975 (9.8%) had smoked tobacco in their lifetime, and 51/975 (5.23%) were alcoholic beverage consumers. On asking them whether tobacco smoking and alcohol consumption can cause cancer, only 4/975 (0.4%) and 14/975 (1.43%) answered no for smoking and alcohol, respectively. **Conclusions:** The prevalence of smoking and alcohol use is very low among medical students, which might be due to high female contribution besides social stigma. The prevalence of second-hand smoke (SHS) was found to be very high in Hail region.

Keywords: Tobacco - smoking - alcohol consumption - cancer - medical students - Saudi Arabia

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Introduction

Cigarette smoking and alcohol drinking contribute strongly to the global mortality and morbidity from cancer (Ahmed, 2013; Lin, et al., 2014). Tobacco consumption is the leading cause of death worldwide, resulting in millions of deaths each year, more than HIV/AIDS, tuberculosis and malaria (WHO, 2008). Tobacco use is a well-established risk factor for cancers of the lung, head and neck, nasopharynx, esophagus, stomach, pancreas, liver, kidney, bladder, leukemia, and cervix. Alcohol drinking is a well-established risk factor for cancers of the head and neck, esophagus, liver, colorectum, and breast for women (Lee and Hashibe 2014). Consumption of alcoholic beverages is a chief cause of mortality and morbidity in both developed and developing countries (Santanu et al., 2012). Alcohol abuse is responsible of chronic diseases, such as oral cancer, liver cirrhosis, and pancreatitis, social consequences, such as road-traffic accidents, workplace related problems, family and domestic problems, and interpersonal violence (WHO, 2002). Therefore, alcohol consumption has been receiving more public or research attention in recent years.

Socioeconomic factors influence tobacco and

alcohol use worldwide (Schottenfeld et al., 2013). In the developed world, a strong inverse relationship between socioeconomic status and smoking exists such that the poorest and least educated populations are more likely to smoke (Laaksonen et al., 2005; Wipfli and Samet, 2009).

The estimated prevalence of tobacco use in the Kingdom of Saudi Arabia (KSA) were greatly vary. The prevalence of tobacco use among adults in the general population of KSA was 22%, as estimated in a report on the global Tobacco Epidemic by World Health Organization (WHO) (WHO, 2013). Moreover, another study has reported an increased percentage of 27.9% in the 2012 (Khattab, et al., 2012). What's more, a relatively high smoking prevalence has been identified among high school students, (Al Moamary et al., 2012) university students, (Mandil et al., 2008) and medical students (Al-Turki, 2006). Shockingly, 24.8% of male medical students were found smokers (Wali, 2006). The prevalence of tobacco use among school students was 9.72% with a significant difference between sexes (12.43% for boys and 6.65% for girls). This in addition to the fact that KSA was ranked as number fourth in cigarette imports worldwide (Al Agili and Park, 2012).

The present study was undertaken with the objectives

¹College of Applied Medical Science, ²Department of Pathology, ³Department of Community Medicine, College of Medicine, ⁴Molecular Diagnostics and Personalized Therapeutics Unit, University of Hail, Kingdom of Saudi Arabia; Department of Histopathology and Cytology, FMLS, University of Khartoum, Sudan *For correspondence: hussaingad1972@yahoo.com

to identify the frequencies of tobacco use and alcohol intake among medical students in Northern Region of KSA (Hail Region) to provide data, so that it might be helpful in planning, application, and evaluation of appropriate programs for the eradication of these harmful habits.

Materials and Methods

This cross-sectional study was conducted in North Saudi Arabia (Hail Region), during the period from October to December 2014. Data was collected as a part of a community based cancer’s awareness movement that covered an area inhabited with approximately 500,000 individuals. Participants were targeted in different public settings including University of Hail. Each participant was asked to fill a questionnaire about tobacco and alcohol habits and other information regarding their attitudes towards these factors in relation to cancer etiology.

Statistical analysis

Statistical analysis was performed by proportion. The Microsoft Excel Office 2007 and the SPSS software (version 16) were used for statistical analysis.

Ethical consent

Written informed consent was obtained from each respondent, ensuring strict anonymity. The Ethical Committee of the Department of Pathology, College of Medicine at the University of Hail has approved the study.

Results

Out of 1200 medical students, 975 students have responded giving a response rate of 81.2%, and the male female prevalence was 12.3% and 87.7%. Out of 975 persons 120 (12.3%) were males and 855 (87.3%) were females giving a male to female ratio of 1.00:7.125. The age range of respondents was 15-30 years with a mean of 18.2±1.3 years. In this survey, 96/975(9.8%), and 51/975(5.2%) of the respondents had smoked tobacco, and consumed alcohol, respectively in their lifetime. Of the 96 smokers, 50/96 (52%) were males and 46/96 (48%) were females, which giving prevalence of 50/120 (41.7%) for males and 46/855 (5.4%). Out of 96 smokers, 41/96 (42.7%) were current smokers and the remaining 55/96 (57.3%) had quit smoking. Out of the 879 never smoked individuals, 440/879 (50.07%) were living with tobacco smokers. Of the 51 alcohol consumers, only 9/51 (17.6%) were currently alcoholic and the remaining 42/51 (82.4%) had quit alcohol consumption, as shown in Table 1 and Figure 1.

The majority of smokers have smoked tobacco for duration of ≤5 years representing 55/96 (57.3%) and the remaining 41/96 (42.7%) have smoked for more than 5 years. All alcoholic beverages users have used it for durations of 5 years or less, as indicated in Table 2.

In regard to age, 975, 250, 650, 35 and 40 were found among age ranges, less than 18 years, 91-23, 24-29 years and more than 30 years, in this order. The great majority of smokers were identified at age group 19-23 years representing 96/60 (62.5%), followed by age group < 18

and 24-29, and 30+ years, each one constituting 12/96 (12.5%), as indicated in Figure 2.

Higher alcoholic consumption was observed among elder individuals, 30+ and 19-23 years representing 41% and 32% respectively, as indicated in Figure 2.

When asking participants about the relationship between cigarette smoking and cancer, 80/975(8.2%) disagreed and the remaining 895/975 (91.8%) have agreed that smoking can cause cancer. On the other hand, when asking them about the association between alcohol consumption and alcoholic beverage consumption, 14 out of 745 responded persons have said that alcohol doesn’t cause cancer and the remaining 731/745 (98%) have answered yes it can cause cancer. However, 230 have denied answering this question.

On questioning the participants, whether cancer causes can be known, 65/495 (13.1%), answered “no” and 430/495(86.9%) answered “yes” they can be known. However, 480/495 (49%) didn’t answer this question.

On asking the participants, whether cancer can be prevented or not, 506/975 (52%) persons have responded,

Table 1. Distribution of the Study Subjects by Smoking and Alcoholic use Habits

Category	Current user	Quit	Never use	Total
Smoking habit	41	55	879	975
Alcohol abuse	9	42	924	975
Living with smoker	0	0	440	440

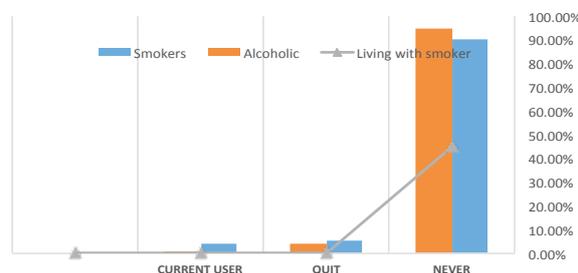


Figure 1. Description of the Participants by Alcoholic Consumption and Cigarette Smoking Exposure

Table 2. Distribution of the Study Population by Duration of Smoking and Alcohol Use

Category	≤5 years	6-10	11+	Total
Smoking habit	55	31	10	96
Alcohol abuse	51	0	0	51
Living with smoker	400	25	15	440

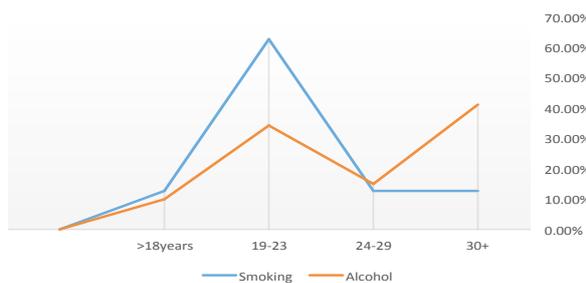


Figure 2. Description of the Smoking and Alcohol use by Age

of whom 120/506 (23.7%) said cancer can't be prevented and the remaining 386/506 (76.3%), answered "yes" some cancers can be prevented.

Of the 96 smokers, only 35/96 (36.5%) persons believe that smoking can cause cancer, on the other hand, of the 51 alcoholic consumers, only 19/51 (37.3%) individuals consider alcohol as possible cause of cancer.

Discussion

Virtually one-third of cancer cases and nearly 40% of deaths from cancer can be attributed to a less healthy lifestyle. Tobacco smoking and alcohol consumption are the most frequent lifestyle risk factors for cancer (Ahmed et al., 2010; Lanting et al., 2014). However, there is a shortage of population based data on tobacco and alcohol exposure in KSA, though KSA is number four in tobacco import. Consequently, it is important to conduct comprehensive surveys to provide data to improve the local understanding of tobacco and alcohol burden in order to plan for appropriate control strategy. Therefore, the aim of this study was to carry out an epidemiological survey on tobacco and alcohol use among medical students.

The prevalence of tobacco smoking among medical students in this study was not as high as that reported by other studies conducted in KSA. Since the prevalence of the present study was 9.8% which is much lower than a prevalence of 20% which was found among high school males in Alkharj, KSA (Al-Yousaf and Karim, 2001) and a prevalence of 22.3% among grades 7-12 male and female students in Tabuk, KSA (Raat, 2007). In a study to identify the current status of tobacco use among middle schools students in Jeddah, KSA and the factors leading to tobacco use, the prevalence of tobacco use among students was 9.72% with a significant difference between sexes (12.43% for boys and 6.65% for girls) (Al Agili and Park, 2012). Although, the number of respondent in the present study was predominantly females, but still the great majority of smokers were male. However, the use of tobacco is increasing among females, though it is considered as social stigma and this may disclose low number of females confess that they practice the habit.

However, many factors have contributed to favor smoking initiation among younger population, lack of awareness among the public about the hazards of tobacco use, weak support from the community and solid struggle from the tobacco providers are major reasons for the lack of effective tobacco control efforts that sustained by Non-governmental Organizations.

Since all of the study subjects were university medical students in this study, the prevalence of tobacco use was expected to be lower than which was presented, since they were expected to be aware of the health hazards of tobacco use. However, socioeconomic factors power tobacco consumption worldwide. In the developed world, a strong inverse relationship between socioeconomic status and smoking exists such that the poorest and least educated populations are more likely to smoke. Such behavior is inverse in many developing countries (Karl Peltzer and Supa Pengpid, 2014). While the few studies characterizing tobacco use in the developing world are indistinct, they

mostly support the findings witnessed in the developed world (Wipfli and Samet, 2009). Furthermore, it has been proposed that tobacco use has become usually prevalent in developing countries and the public health significance of smoking related morbidity and mortality will continue to grow (Wipfli and Samet, 2009).

In the present study about 50% of the participants were exposed to the second smoke (living with smoker). Second-hand smoke (SHS) is one of the most important and most widespread exposures in the indoor environment. The relationship between SHS and several health outcomes, such as respiratory infections, ischaemic heart disease, lung cancer and asthma, have long been well-known. Nonetheless, 93% of the world population is still living in countries not covered by 100% smoke-free public health regulations, and exposure to SHS in the home is still common. Worldwide, more than a third of all people are recurrently exposed to the unsafe effects of smoke. This exposure is responsible for approximately 600,000 deaths per year, and around 1% of the global burden of disease worldwide. In 2004, 40% of children, 33% of male non-smokers and 35% of female non-smokers were exposed to second-hand smoke (WHO, 2015).

The problem of alcohol consumption in KSA has widely obscured, since its use is illegal by Sharia Islamic Law. However, the number of alcoholic accessible in the present study might not be the precise number, since most of users decline to specify their habits. The presence of a considerable proportion of alcohol consumers KSA may subject it to be underlined for the successful implementation of intervention programs. WHO Regional Office for the Eastern Mediterranean has that the level of alcohol use in KSA is substantial and the collected data suggest a stable trend in alcohol use (WHO, 2003). In a study conducted in Al-Amal Hospital in Riyadh found that alcohol was used by 23.75% of the patients (Al-Nahedh, 1999). In another study from Dammam in Saudi Arabia's eastern region, it was found that 12.5% of the study population were alcoholic beverage consumers (Amir, 2001).

However, both tobacco and alcohol use prevalence rates in KSA are very low behind other prevalence rates from countries in the region. In a study to determine the predictors of health promoting lifestyle behavior among medical students attending seven of the medical schools it was found that 55.1% were men, 62.3% were in the first year. The overall prevalence of smoking was 19.1%, and for drinking alcohol was 19.4% (Melis, et al., 2014). Based on these results, particularly in the curriculum of medical students in order to increase positive health behaviors including physical activity, health promotion issues, and giving more space to aim at behavioral change in these matters is recommended.

However, Cancer often creates fear which comes out of ignorance and misconception. More than 30% of cancer cases could be prevented by modifying lifestyle or avoiding key risk factors. About 1/3rd of cancer cases could be reduced if cases are treated and detected at an early stage (Ahmed, 2012). Cancer prevalence differs for the different countries, according to the presence of a particular risk factors group, such as environmental

exposure to carcinogens and the life style adopted. It is well established that, more than 30% of cancer deaths could be prevented by modifying or avoiding key risk factors, including; tobacco use, being overweight or obese, unhealthy diet with low fruit and vegetable intake, lack of physical activity, and alcohol use (Ahmed et al., 2014).

The limitations of this study include; its cross-sectional design and obtaining of data as self-report. The use of quantitative measures of tobacco exposure such as exhaled carbon monoxide, urine or saliva nicotine would allow a more definitively characterized tobacco exposure rather than self-report.

In conclusion, the prevalence of smoking and alcohol use is very low among medical students, which might be due to high female contribution in addition to the social stigma. Females' participations in tobacco and alcoholic related studies were found to be influenced, since these habits are considered as social stigma in KSA. On the other hand, the prevalence of second-hand smoke (SHS) was very high, which might be a relative indicator among community.

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