

Awareness of the General Population about the Effects of Smoking on Health in Saudi Arabia

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Abstract

The objective of this Integrative Literature Review (ILR) is to consider the knowledge on injurious possessions of smoking amongst Saudi general population. Integrative Literature Review (ILR). The search databases for the publications used in the study are PubMed and EBSCO Information Services. Topics concerning knowledge on harmful effects of smoking among Saudi general population were used in the making of the article. No software was exploited for data analysis. The majority of Saudis are aware of the health risks associated with smoking and have seen or read the warnings on cigarette packages. Smokers were unaffected by the influence of cigarette health warnings in terms of quitting. To develop tobacco-free future generations, mass awareness campaigns against tobacco, tobacco control, and cessation measures can be implemented. Many efforts are required from health policymakers and healthcare specialists to distribute info around the dangers of smoking and the health benefits of quitting. This emphasizes the significance of educating the public about pertinent information in order to encourage positive attitudes and encourage healthy behaviors. In conclusion, this research may provide a starting point for understanding how knowledge about tobacco use can promote smoking cessation behaviors. This study emphasizes the necessity for behavior modification tactics that encourage people to adopt healthier habits and has significant ramifications for public healthcare plans while maintaining an optimistic attitude.

Keywords: Smoking, Effects, General health, Saudi Arabia, Awareness

INTRODUCTION

A substance is burned during the practice of smoking, and the resulting smoke is typically inhaled so that it can be tasted and absorbed into the bloodstream [1]. The World Health Organization (WHO) estimates that tobacco use kills 6 million people annually, with secondhand smoke killing an additional 600,000 people [2].

More than 80% of smokers live in low-and middle-income countries, where there are approximately 1.3 billion smokers worldwide [3]. Recent statistics show a decline in the prevalence of smokers worldwide, with the majority of the decline taking place in North American and Scandinavian countries. But over the same time period, smoking frequency has rapidly increased in both high-income and low-income countries, including Cote d'Ivoire, Kazakhstan, Serbia, and Mauritania [4]. According to recent estimates, roughly 20% of Saudi Arabian residents use tobacco, with comparable proportions recorded among teenagers [5, 6]. According to the WHO, smoking was prevalent among Saudi Arabian teenagers in 2016, with 21.2% of men and 9.1% of girls smoking. Males smoked 23.7% of the time, whereas females smoked 1.5% of the time [7]. Published reports indicate that between 2007 and 2018, the prevalence of tobacco use among Saudi Arabian adolescents ranged from 2.4% to 39.6% [8].

In addition to cancers of the mouth, throat, lungs, kidneys, cervix, and pancreas, smoking has also been linked to an increased risk of stroke, chronic respiratory and cardiovascular diseases, and cancers of the cervix and kidneys [9, 10]. Around 20% of adult deaths worldwide are attributed to smoking. Smoking is predicted to cause 8 million annual deaths by 2030, with 80 percent of these deaths taking place in low and middle-income countries [11, 12]. Smoking is linked to a variety of ailments, including respiratory, cardiovascular, and cancer. Furthermore, some research has found a substantial link between smoking and eye illnesses such as age-related macular degeneration, cataracts, Graves' ophthalmopathy, and glaucoma [13].

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Despite this association, compared to other more well-known illnesses such as lung cancer, oral cancer, stroke, and heart attack, a large portion of the general population is ignorant of it [14]. Only 5% of the 260 adolescents (aged between 11- 18 years old) in a study conducted in England, people were aware that it caused blindness. The teens, on the other hand, were much more afraid of blindness than of lung cancer, heart disease, or stroke [15, 16]. Furthermore, when compared to early indicators of lung cancer, heart disease, or stroke, more teens stated they would quit smoking if they saw early signs of blindness. As a result, it's critical to increase awareness about the link between smoking and blindness and to encourage people to quit smoking [17, 18].

The majority of Greek smokers agreed that smoking causes lung cancer (95.4%), heart disease (94.4%), throat cancer (87.9%), bronchitis (87.7%), and mouth cancer (84.8%), but 51.7% disagreed that smoking causes blindness (37.8%), tuberculosis (38.0%), impotence (33.8%), stroke (24%) and heart attacks in non-smokers (27.3 percent) according to Ioanna Petroulia, *et al.* In smokers who reported having significant difficulties quitting, the proportions who were aware of blindness and stroke were lower. Smokers also claimed they found it difficult to stop and were not aware that smoking could result in TB and bronchitis. Smokers who stated they wanted to quit "a lot" had higher levels of awareness of all health risks [19].

Understanding the harmful effects of active and passive smoking is the first step toward behavior change, but it is not enough to help people quit. Twyman *et al.* published a comprehensive assessment of the perceived barriers to smoking cessation in vulnerable populations. Individual and lifestyle issues; physical addiction, low confidence, behavioral habits, low motivation, failed previous attempts, relaxation, stress and mood management, perceived mental health benefits, enjoyment, low health related knowledge, social and community barriers; lack of support from a health professional, socializing, lack of social support, high prevalence and acceptability of smoking in social and community barriers as cultural norms, maintaining identity [20].

Study Rationale

Smoking related health disorders are on the rise due to increase in the number of smokers. Smoking acts as an etiological factor for various diseases affecting oral and general health. Up to our knowledge, there is lack of studies assessing Saudi population awareness of negative effects of smoking on general health.

Research Hypothesis

Null Hypothesis

Saudi general population in have no knowledge regarding effects of smoking on the general health.

Alternative Hypothesis

Saudi general population, have enough knowledge regarding effects of smoking on the general health.

Research Question

Dose Saudi general population have enough knowledge regarding effects of smoking on the general health?

Study Objective

The objective of this Integrative Literature Review (ILR) is to consider the knowledge on injurious possessions of smoking amongst Saudi general population.

MATERIALS AND METHODS

Type of the Study

Integrative Literature Review (ILR).

ILR is a technique for compiling previously published studies with the aim of synthesizing evidence on a topic; it is frequently used in the health sciences to identify innovations and discover new approaches to healthcare, enabling the use of evidence-based services, guaranteeing quality, and enhancing patient safety. There are six steps that must be carried out in that order: The study problem is explained, the inclusion and exclusion criteria are applied, the included studies are evaluated, the results are interpreted, and the ILR synthesis is presented.

The research question was developed using the PICO (Patient, Intervention, Comparison, and Outcome) technique, which is frequently used in evidence-based practice. According to the PICO strategy, issues should be broken down into the following four categories: patient, intervention, and treatment outcome, comparison, and (PICO). Because of how these pieces are made, it is possible to create designs that are more flexible and effective in solving the current issue.

The papers that answered the research question were reviewed in depth after searching and defining the sample. Following data collection, the information was grouped in a table, allowing the profile of the articles to be described and the main points were highlighted.

Topics concerning knowledge on harmful effects of smoking among Saudi general population were used in the making of the article. The titles and abstracts of the established papers were scrutinized. These articles were picked for inclusion based on their applicability to the project, which had to address one of the following issues: overall Saudi community awareness of the negative consequences of smoking.

Exclusion Criteria

All additional papers, repeated studies, and reviews of research that do not have one of these themes as their major end were disregarded.

Statistical Analysis

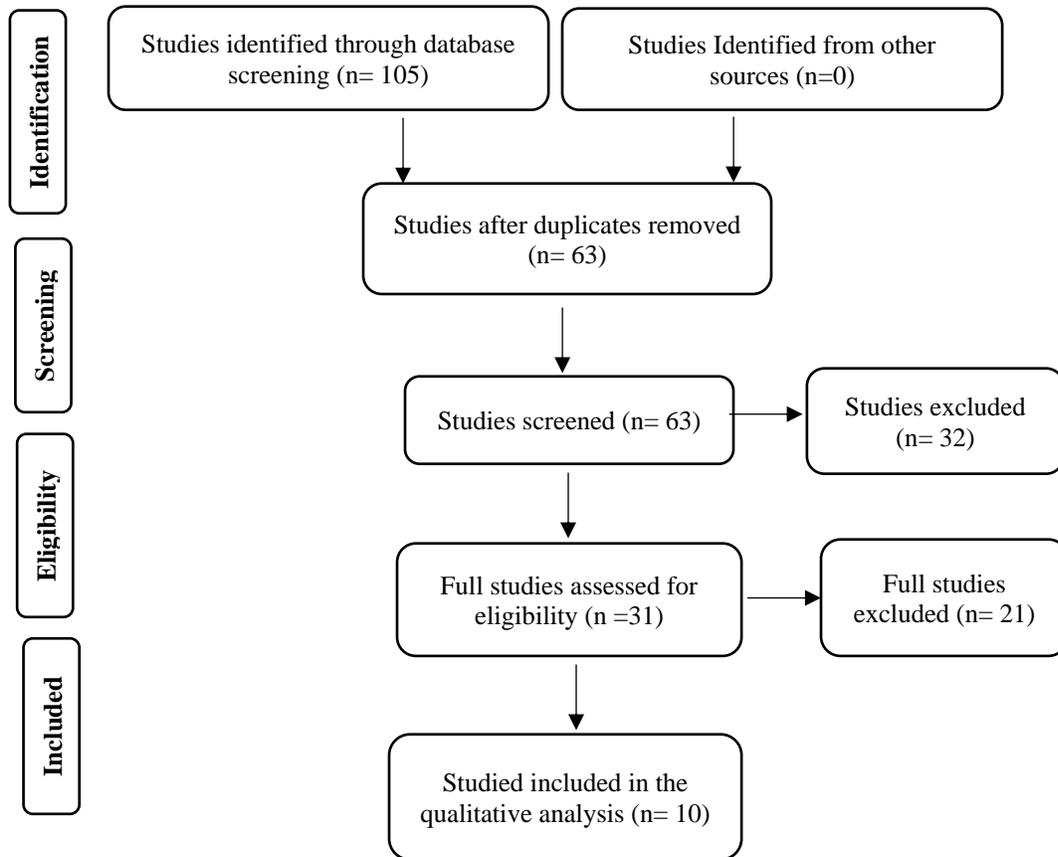
There was no software used in the data analysis. The publication's title, author's name, objective, executive summary, outcomes, and results were all taken from a predetermined form. The outcomes of each participant were double-revised to ensure validity and minimize errors.

In order to ensure that the research we enrolled is relevant to the goal of our study and to prevent or reduce mistakes in the results; studies were double-reviewed during the article selection process.

RESULTS AND DISCUSSION

The choice and designation of research are shown in **Figure 1**. A number of 105 studies were identified after searching the aforementioned databases, which were then used for title filtering. 32 of them were excluded after 63 of them were comprised for summary screening. The entire texts of the remaining 31 publications were examined. 21 papers were excluded as a result of the full-text review, and 10 remained enrolled for the final data extraction (**Table 1**).

The included studies had different study designs.



Marzo (2016) reported that, greatest smoking prevalence was observed in those aged 25 to 44. A higher percentage of smokers than of non-smokers (90.9%) were aware that cigarette cartons contain health warnings regarding smoking. Smokers and non-smokers both chose the graphic depiction of lung cancer the most frequently (32.3%). The voters' preferred option was frightening imagery [21].

Shanmugasundaram & Sitaraman (2019) revealed that 83% of the study population were aware of the ill – effects of tobacco use. Majority of the participants were aware that smoking causes lung cancer. 88% of the study population were aware of the risks of passive smoking. About 16 % were unaware of the complications of passive smoking. 78% of

respondents were aware that tobacco chewing can cause oral cancer [22].

Salgado *et al.* (2017) studied 1659 participants, 453 of whom (27.3 %) were current smokers. Only 52 % of participants agreed that 30.9% of respondents said that medical guidance had little impact on patients' quitting behavior, while 19.4% supposed that clinicians might refuse to treat smoldering cases that were unable to quit. Physicians ought customary an instance intended for their clients thru evading smoking [23].

Pascal & Collins (2017) found that, there was 95.6%, 92.8%, and 65.2% understanding the overall health consequences of indirect smoking on individuals, kids, and expectant women,

respectfully. Lung cancer (95.6%), the onset of asthma (92.8%), and the birth of tiny infants (65.2%) constituted the most frequent particular health impacts of which the responses were informed for individuals. Radio accounted for 93.6% of all sources of information awareness. There was a significant relationship between exposure status and knowledge of the overall health consequences of contact to passive smoke on individuals ($P = 0.041$), children ($P = 0.031$), and pregnant women ($P = 0.02$) [24].

Dawood *et al.* (2016) revealed that smokers had limited knowledge of certain of the risks associated with smoking, including lung cancer in nonsmokers (30.1%), impotence in smokers (52.6%), accelerated ageing (64%), and stroke (66.3%). Additionally, there was a strong correlation between the intention to stop and having good knowledge and perception scores [25].

Park *et al.* (2018) found that, positive attitudes to quitting smoking were substantially linked to a greater degree of tobacco-related information. It's interesting to note that among present smokers, just those who correctly answered 9 out of 12 items relating to nicotine had a meaningful connection for their attitude about quitting smoking [26].

The fewest often detected health hazards, according to Alzahrani (2020), were cognitive deficiency (47.8%), heart attack in children (37.5%), and ear infection in children (28.1%). In comparison to their counterparts, 57.5% of the participants had enough knowledge, which was greater among women and lower among those living with friends ($p 0.05$). There was no correlation between level of

comprehension and the SHS sensitivity measures or the degree of discomfort felt [27].

94% of the research group, according to Al-Haqwi *et al.* (2010), said that smoking might lead to significant diseases. In the future, around 90% of the students said they would encourage their patients to stop smoking, and 88% agreed that smoking should be prohibited in public places. A total of 44 students (20%) believed that smoking has some positive impacts, mostly as a stress-reduction technique [28].

According to research by Minh *et al.* (2013), most people had a solid understanding of the health hazards associated with both active smoking and secondhand smoke exposure (90% and 83%, respectively). Stroke, heart attack, and lung cancer-related knowledge, on the other hand, seems to be less common (51.5%). Smokers were substantially less likely than non-smokers to show that they knew more about the health concerns associated with AS (OR 1.6) and SHS (OR 1.7). Adults with secondary school, college education, or higher levels of education also knew substantially more about the health hazards associated with AS/SHS than adults with only elementary education. Growing older was positively correlated with awareness of the health effects of SHS, and information availability was strongly correlated with knowledge of the health hazards connected with AS/SHS [29].

According to Owusu-Dabo *et al.* (2011), women had lower levels of health knowledge than men did. Traditionalists showed higher levels of health awareness than Christians, the relatively well-educated, and people living in rural regions [30].

Table 1. Author, country, year of publication, methodology and results

Author, year	Study type	Method	Outcomes
Marzo (2016) [21]	A descriptive, cross-sectional study	383 respondents from Bandar Maharani, Muar participated in a quantitative survey that used two-step sampling techniques: cluster sampling and simple random sampling. Descriptive statistics were used in the data analysis to describe the sociodemographic characteristics of the participants, and the results were presented using texts, tables, graphs, percentages, and an independent t-test.	The majority of respondents are well-informed about the health risks of smoking and have seen or read the warnings on cigarette packages. Smokers were not influenced to stop smoking by cigarette health warnings.
Shanmugasundaram & Sitaraman, (2019) [22]	Community-based cross-sectional study	The assessment of knowledge and awareness of the effects of tobacco use – smoking and smokeless is done by evaluating the answers to 20 - point questionnaire. The questionnaire was designed to enquire the extent of awareness of the respondents regarding the risks and hazards to tobacco use on oral and general health.	Increased awareness of ill – effects of tobacco can lead to decrease in the number of people using tobacco and related products.
Salgado <i>et al.</i> (2017) [23]	Cross-sectional self-administered online survey	An online survey conducted by the University of Buenos Aires that was cross-sectional and self-administered among medical students and recent graduates. Responses to 16 statements about the effects of cigarette smoking and the role of doctors in tobacco control were used to assess attitudes and knowledge.	The majority of participants claimed to have a strong anti-tobacco stance, but some of them did not understand the significance of their position as doctors in tobacco control strategies. Students who were still enrolled at the time and current smokers were less likely to favor smoking bans inside.

Pascal & Collins, (2017) [24]	A cross-sectional study	In all, 500 adult patients from a primary care clinic in Nigeria participated in the study. A pretested, structured, and interviewer-administered questionnaire was used to gather the data.	Lung cancer, the acceleration of asthmatic attacks, and the delivery of small babies in adults, children, and pregnant women, respectively, were the most frequent health effects of secondhand smoke about which the respondents were most aware. The exposure status was significantly correlated with knowledge of the effects on adults, children, and pregnant women's general health.
Dawood <i>et al.</i> (2016) [25]	A cross-sectional study	The study was carried out in Tikrit Teaching Hospital's outpatient clinic in Tikrit City, Iraq. Adult smokers who can communicate with the researcher and smoke cigarettes every day were invited to take part in the study. 386 participants' answers to a self-administered questionnaire were used to gather data.	Particularly in regards to passive smokers, smokers had little knowledge of or perception of the negative health effects of smoking.
Park <i>et al.</i> (2018) [26]	A cross-sectional study	Data from the 2010 national questionnaire survey (n = 1,006) was analyzed for the study.	According to the results of this study, having a higher level of knowledge about tobacco had a significant impact on positive attitudes toward quitting smoking. This finding suggests that it is important to spread accurate information to the general public in order to foster positive attitudes and encourage healthy smoking habits.
Alzahrani (2020) [27]	A cross-sectional study	King Abdulaziz University's Faculty of Medicine in Jeddah, Saudi Arabia, is where the study was carried out. Medical students in their second through sixth years were given access to an online, modified version of a validated questionnaire. The following questions were the main focus of the questionnaire: 1. SHS exposure level; 2. SHS effects; and 3. Knowledge of SHS-related health risks, with calculation of a knowledge score (range: 0–8). A score of ≥ 5 (median = 5) was considered to be adequate knowledge, and the associations between exposure to SHS and sociodemographic and lifestyle factors were examined using the chi-squared and independent t-tests, as necessary.	Medical students still have significant exposure to SHS in public places, despite their lack of knowledge about the health risks associated with SHS. The importance of medical colleges implementing effective educational interventions by enhancing their curricula regarding the risks of SHS and the advantages of quitting smoking is highlighted by this, which calls for the reinforcement of tobacco control strategies.
Al-Haqwi <i>et al.</i> (2010) [28]	A cross-sectional study	In Riyadh, Saudi Arabia, a study was conducted on students from two medical colleges. The anonymous, self-administered survey that was used was primarily derived from the Global Adult Tobacco Survey (GATS).	In spite of having a thorough understanding of the risks associated with tobacco use, about 25% of the medical students in this study still smoke. The primary reported causes need to be urgently addressed by policymakers.
Minh <i>et al.</i> (2013) [29]	A cross-sectional study	Using a two-stage sampling design, GATS 2010 was used to survey a national representative sample of Vietnamese men and women.	To increase their awareness of the health risks of smoking, it may be necessary to target tobacco prevention programs at specific subgroups, such as current smokers, adults with low education levels, and non-Kinh ethnics. To increase public awareness of the negative effects of smoking on health, comprehensive messages and/or images about specific AS/SHS-related diseases should be distributed through various local, culturally appropriate channels and modes.
Owusu-Dabo <i>et al.</i> (2011) [30]	A cross-sectional study	Using a representative household sample from the Ashanti Region of Ghana, household members aged 14 years and older were studied.	Ghana has a high level of public support for a smoke-free environment and health risk awareness. The majority of smokers have tried to stop, and there is little exposure to tobacco advertising or promotion. Uncertainty exists regarding the relationship between these findings and the current low smoking prevalence.

Use of tobacco significantly increases the risk of illness in youth. In 2015, tobacco usage was responsible for 3.4% of the illness load experienced by men between the ages of 25 and 44. The seventh most frequent modifiable risk factor that increased the burden of illness was tobacco smoking. As the 6th most prevalent modifiable risk factor for women in this age range, tobacco smoking accounted to 2.8% of their disease burden. The three kinds of diseases that are most commonly brought on by tobacco smoking in adults between the ages of 30 and 39 are pulmonary disorders, cardiovascular disorders, and then musculoskeletal conditions. Cancer is also

a significant factor for those between the ages of 40 and 49 [31-33].

Daily total cigarette use is positively correlated with the likelihood of smoking-related diseases. Cross-sectional studies account for a large portion of the research on the health impacts of active smoking for young individuals. These studies demonstrate that smoking increases the risk of developing a number of illnesses in young individuals, including heart problems, asthma, and dental problems. Nevertheless, cross-sectional research do not offer

compelling proof that smoking causes these illnesses. It's conceivable that young individuals with terrible health choose to smoke more frequently, or that they smoke more frequently for reasons related to their terrible health, including such socioeconomically disadvantaged level [34].

In industrialized nations overall, tobacco use is linked to 24% of male fatalities with 7% of female deaths, according to a study by European medical experts; in other nations in Europe, this number rises to almost 40% for men and to 17% for women. Smokers often live eight years less than those who do not smoke [35]. If smokers give up before they are 30, the majority of the danger of dying too young is eliminated. Smoking, nevertheless, is linked to a number of acute health issues in addition to paving the way for the onset of major diseases in adults through childhood and teenage years [36].

Most tobacco fatalities are caused by heart disease, COPD, and malignancies, particularly lung cancer. In addition to several other harmful compounds, tobacco smoke includes recognized carcinogens in physiologically relevant amounts. Some of them, like some tobacco-specific nitrosamines (especially NNK and NNN), are present in tobacco due to the way it is processed, while others, like benzopyrene, are produced when tobacco is burned [35]. Smoking is a significant predictor for peripheral vascular disease, which can result in amputation, backache, eyesight, deaf, even stroke [36]. Smokers have more suffering and incapacity on average beyond the age of 40 compared to non-smokers [36].

Smoking lowers reproduction including both men and women. Smoking during pregnancy impairs foetal development, increases the chance of miscarriage, newborn mortality, respiratory illness in kids, and is likely a contributing factor to the offspring's mental health issues [37].

Smoking tobacco may contribute slightly to the rise in cardiovascular disease, but it has little to no effect on the rise in cancer or respiratory illness risks. Nearly bulk of the harm caused by cigarette smoke is caused by its other constituents. There is no indication of clinically significant abnormalities in emotion or cognition in adults who smoked throughout adolescence, contrary to what has been suggested based on studies with other animals [34].

Infants, children and young individuals are significantly at danger from secondhand smoking exposure. As a result, non-smokers exposed to a smoke-filled atmosphere have a higher chance of developing cancer, heart disease, and respiratory illnesses [37].

Different smoking-related ailments respond differently to cessation. Within a year of quitting smoking, the excess risk of heart attack is reduced by 50%. In COPD patients, quitting smoking decreases the frequency of "exacerbations," or

sudden spells of breathing trouble that end in mortality or hospitalization [38]. However, it does not reverse the pace of lung function deterioration that occurs with ageing. Smoking cessation "freezes" the risk of malignancies linked to smoking at the level encountered at the time of cessation but does not really reduce it [38].

Tobacco users who give up smoke have reduced stress and mood and anxiety disorders rates compared to those who didn't [39]. In comparison to those who carry on, they also report better levels of pleasure and life satisfaction. This shows that smoking may have negative effects on mental health, while other possible reasons cannot yet be excluded out based on the available data [40].

CONCLUSION

To develop tobacco-free future generations, mass awareness campaigns against tobacco, tobacco control, and cessation measures can be implemented. Health policymakers and medical professionals must make significant efforts to spread information about the risks of smoking and the advantages of quitting. This emphasizes how crucial it is to spread accurate information to the populace in order to foster positive attitudes and encourage healthy behaviors. Overall, this research could be a place to start when trying to understand how tobacco-related knowledge can support smoking cessation behaviors. This study supports the need for behavioral intervention strategies that encourage people to engage in healthy behaviors while maintaining a positive attitude and has significant implications for public health policies.

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