



World Health
Organization

Arab Republic of Egypt
Ministry of Health & Population



Shisha and Smokeless Tobacco

Use Among University Students in Egypt: Prevalence, Determinants and Economic Aspect



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Study background and Objectives

Tobacco use is the single greatest preventable cause of premature death and disability, worldwide. Cigarette smoking, which has been studied extensively, is the leading type of tobacco use all over the world. In contrast, little is known about other forms of tobacco use like shisha smoking and smokeless tobacco use. Recently these forms of tobacco use have gained popularity, especially among a vulnerable sector of the community: youth. These emerging forms of tobacco consumption in Egypt, especially among youth, represent a public health threat for the country, as today's smokers will contribute heavily to the future burden of morbidity and mortality.

Shisha smoking is the first emerging form of tobacco use in the 21st century. It was historically associated with the Eastern Mediterranean Region and has been primarily associated with adult usage, but recently the practice has been growing among younger adults and adolescents. This trend presents a new challenge facing national public health strategies for tobacco control. The scientific data regarding the adverse health consequences of shisha point to dangers that are similar to or exceeding those associated with cigarette smoking: malignancy, cardiac diseases, impaired pulmonary function, low birth weight and others.

The growth of this phenomenon has been attributed to the perception that shisha is fashionable, a social activity for gathering and socialization and less dangerous than cigarette smoking. Other factors include its easy availability, its low cost and the effects of its marketing through the mass media.

Smokeless tobacco is used by chewing, snuffing, sucking, rubbing on the teeth and in the form of gum. Unfortunately, little is known about the adverse health effects of smokeless tobacco use.

Expenditure on tobacco use by youth replaces expenditure on other essential items and services. Among university students, tobacco use constitutes an economic burden which could deprive them of enjoying other healthy aspects of life and affect their quality of life.

Most of the epidemiological studies of tobacco use have been conducted among adults; only a few reports have

been published about university students. Understanding the factors contributing to the trends in tobacco use is important to develop properly tailored prevention and cessation programs, as well as policy interventions targeting this important sector of the community.

The current study aimed to investigate these emerging forms of tobacco use among a sizable, critical and vulnerable sector in the Egyptian community, the youth. Studying the determinants, prevalence, patterns of use and economic aspects of these types of tobacco use are among the specific objectives of the study. The results will help policy-makers and stakeholders to tailor future policies and implement effective tobacco prevention and control measures targeting this vulnerable population.

Methodology

A self-administrated questionnaire was used to collect data concerning smoking status from university students in the age group of 17–25 years old. Questions were based on the standardized Global Tobacco Questions for Survey (TQS) developed by the U.S. Centers for Disease Control and Prevention, which are a subset of key questions from the Global Adult Tobacco survey (GATS). The questionnaire included information on respondents' background characteristics, tobacco use (cigarettes, shisha and smokeless), determinants, cessation, second-hand smoke and economics.

A three-stage random cluster sample representing Egypt's universities was designed. In the first stage, a subsample of five universities and two high institutes were selected from sampling frames of all Egyptian universities (one from universities in cosmopolitan cities, one from Lower Egypt universities, one from Upper Egypt universities, one from private universities and one governmental high institute and another private institute). In the second stage, two faculties (theoretical and practical) were selected from each university. In the final stage, the questionnaires were distributed, in each faculty, to undergraduate students from all academic years of university education. Taking anticipated non-response into consideration, 5600 questionnaires were distributed. Data collection started during the second semester of the academic year 2012–2013.

Study Highlights

Response rate: From the total study sample, 4484 students participated with valid complete questionnaires (80% response rate).

1. Socio-demographic characteristics

54.3% of the students were males and 45.7% were females. The mean age of the participating students was 20.35 ± 1.51 years. About 56.6% of students were from cosmopolitan regions' universities (Greater Cairo and Alexandria governorates), 21.2% from Upper Egypt (As-siut governorate) and 22.2% from Lower Egypt (Sharkia governorate). Around 76.0% of students lived in urban areas versus 24.0% in rural areas. 84.7% of students were from public universities versus 15.3% from private universities and institutes. Regarding the faculties, 51.6% of students were from theoretical faculties and 48.4% from practical faculties.

2. Prevalence and pattern of tobacco use among university students

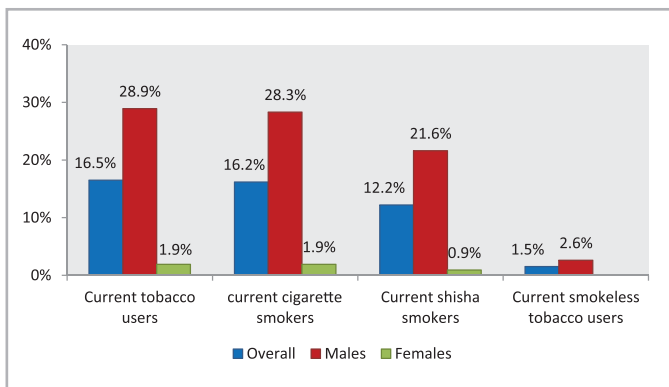


Figure 2.1 Prevalence of current use of different tobacco products among university students, by sex

The overall percentage of current tobacco users among university students was 16.5%. Males were the main users, with a prevalence of 28.9% compared to 1.9% among females. The majority of tobacco users (16.2%) were current cigarette smokers (28.3% of males, 1.9% of females), while the overall prevalence of shisha smokers was 12.2% (21.6% of males, 0.9% of females). The prevalence of current smokeless tobacco use was low; 1.5% overall 2.6% among males and 0.1% among females (Figure 2.1)

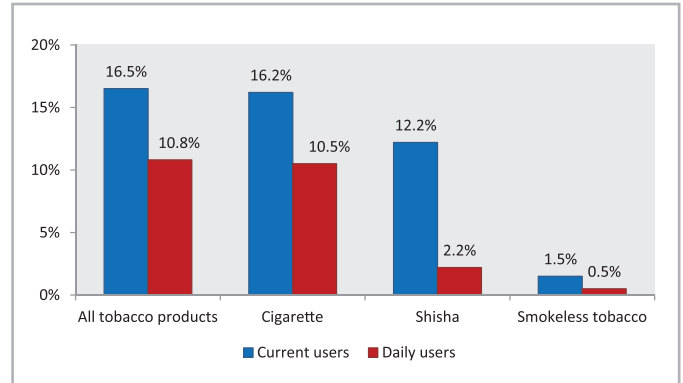


Figure 2.2 Distribution of current and daily users among university students, by type of tobacco product

Current tobacco users represented 16.5% of university students. Daily users represented 10.8%. Current and daily cigarette smokers represented 16.2% and 10.5% of the students, respectively. Current and daily shisha smokers represented 12.2% and 2.2% of the students, respectively. For smokeless tobacco, 1.5% were current users and 0.5% were daily users (Figure 2.2).

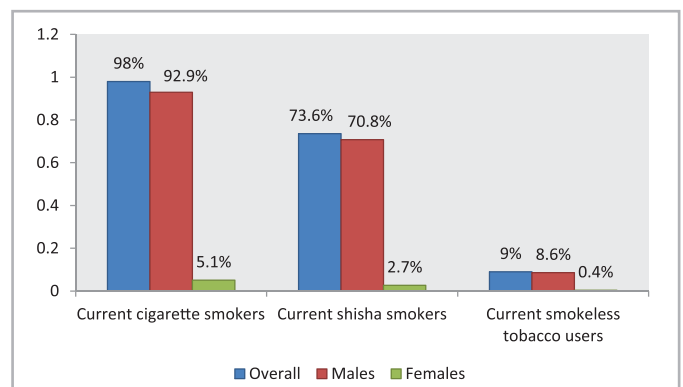


Figure 2.3 Distribution of different forms of tobacco use among current users by sex

Overall, 98% of current users smoked cigarettes, 73.6% smoked shisha and 9% used smokeless tobacco. Among current tobacco users, 92.9% and 5.1% of males and females respectively smoked cigarettes. As regards shisha smoking, 70.8% and 2.7% of males and females respectively smoked shisha while for smokeless tobacco, 8.6% and 0.4% of males and females respectively used this form of tobacco (Figure 2.3).



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• Tobacco use

The average age for starting cigarette smoking was 16.3 years, while it was slightly higher (17.0 years) for shisha smoking and it raised to almost 18 years for smokeless tobacco use. There was no significant difference between both males and females regarding age of initiating tobacco use. For daily cigarette smokers, the average amount of cigarettes smoked per day was one pack (20.6 cigarettes). For daily shisha smokers, the average number of shisha sessions per day was 1.6. The most common cigarette brands purchased by university students were imported brands (71.3%), followed by local brands (16.8%), while 12% of cigarette smokers admitted to smoke illicit brands.

3. Cessation

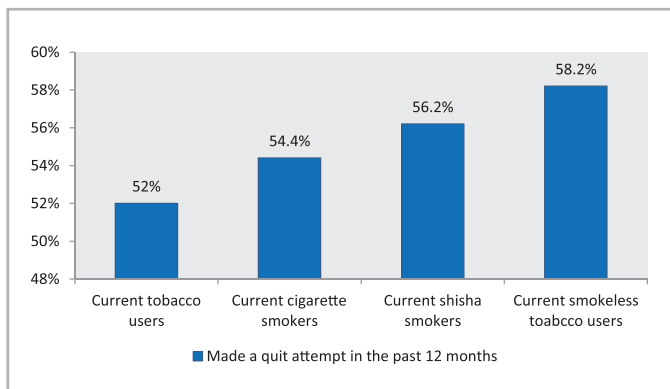


Figure 3.1 Percentage of current tobacco users who made a quit attempt in the past 12 months

52% of tobacco users reported making at least one quit attempt during the past 12 months. This represented 54.4% of current cigarette smokers, 56.2% of current shisha smokers and 58.2% of current smokeless tobacco users (Figure 3.1).

4. Exposure to secondhand smoke

About 63.5% of university students reported exposure to secondhand smoke in a closed place at their university and 47% reported exposure to secondhand smoke at their homes (Figure 4.1).

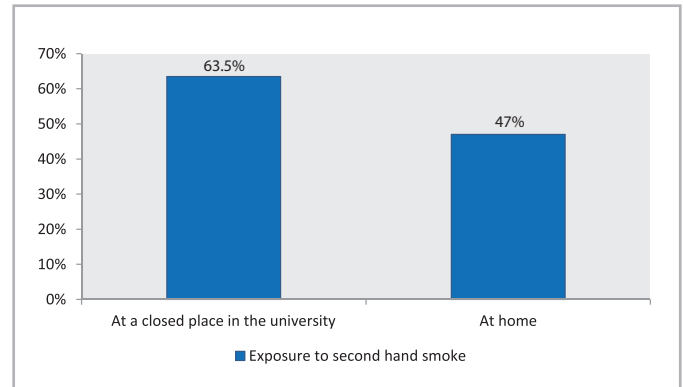


Figure 4.1 Percentage of university students exposed to indoor secondhand smoke at their universities and homes

5. Beliefs, attitudes and perceptions

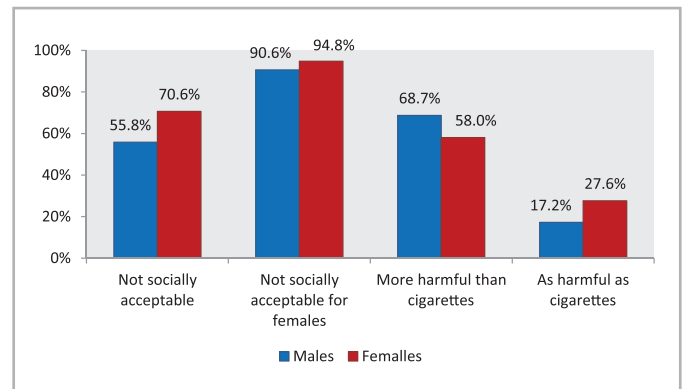


Figure 5.1 Beliefs, attitudes and perceptions concerning shisha smoking among university students

Nearly 56% of males versus 70.6% of females perceived shisha smoking as socially unacceptable. At the same time, the majority of the students (90.6% and 94.8% of males and females, respectively) perceived shisha smoking for females as not socially acceptable. Those who believe that shisha smoking is more harmful than cigarettes represented 68.7% and 58% of male and female students, respectively. Those who believe that shisha smoking is as harmful as cigarettes represented 17.2% and 27.6% of males and females, respectively (Figure 5.1).

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6. Determinants of shisha smoking and smokeless tobacco use among university students

• Sex

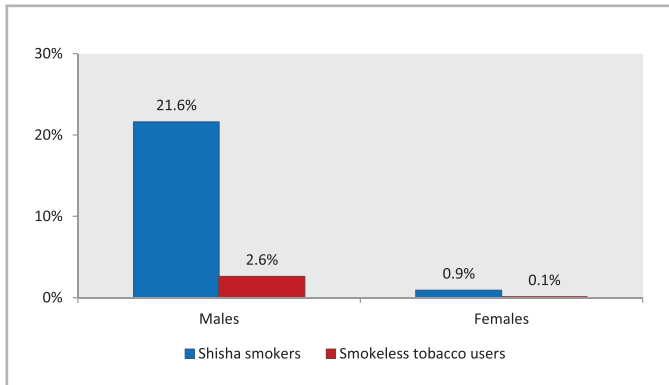


Figure 6.1 Distribution of shisha smoking and smokeless tobacco use, by sex

21.6% of male students were shisha smokers, versus 0.9% of females ($P=0.001$). 2.6% of male students were smokeless tobacco users versus 0.1% of females ($P=0.04$) (Figure 6.1).

• Age

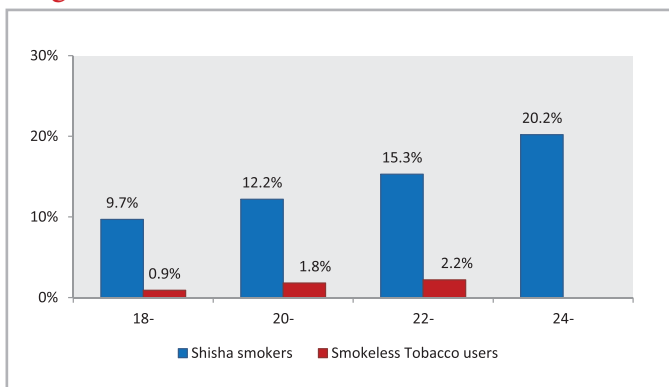


Figure 6.2 Distribution of shisha smoking and smokeless tobacco use by age group

20.2% of university students aged ≥ 24 years were shisha smokers, compared to 9.7% of shisha smokers aged 18 to < 20 years of the students. On the contrary, smokeless tobacco use was not determined at all among those aged ≥ 24 years. While among younger ages (22 to < 24 years and 20 to < 22 years) about 2.2% and 1.8% respectively were smokeless tobacco users (Figure 6.2).

• Region

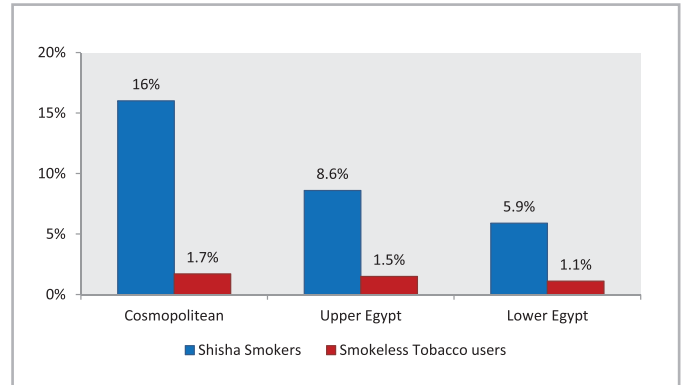


Figure 6.3 Distribution of shisha smoking and smokeless tobacco use by region

The percentage of shisha smoking university students residing in cosmopolitan areas was significantly higher (16%), compared to 8.6% residing in Upper Egypt and 5.9% in Lower Egypt. As regards smokeless tobacco, 1.7% of university student users resided in cosmopolitan areas, 1.5% in Upper Egypt and 1.1% in Lower Egypt (Figure 6.3).

• Type of university

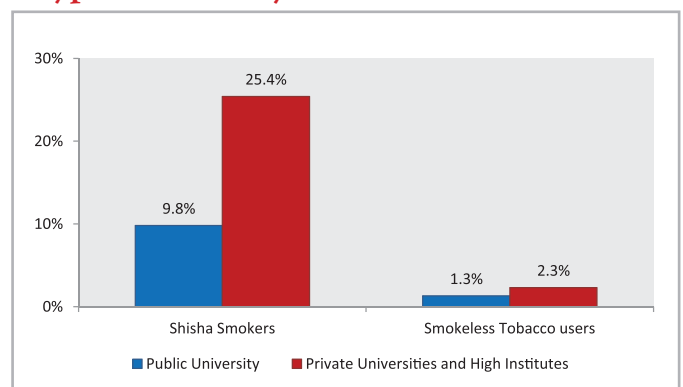


Figure 6.4 Distribution of shisha smoking and smokeless tobacco use by type of university

The percentage of shisha smokers was significantly lower (9.8%) among students in public universities compared to those (25.4%) among students in private universities and institutes. For smokeless tobacco, 1.3% of public university students were smokeless tobacco users compared to 2.3% among students in private universities and high institutes (Figure 6.4).



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• Having a smoker family member or close friend

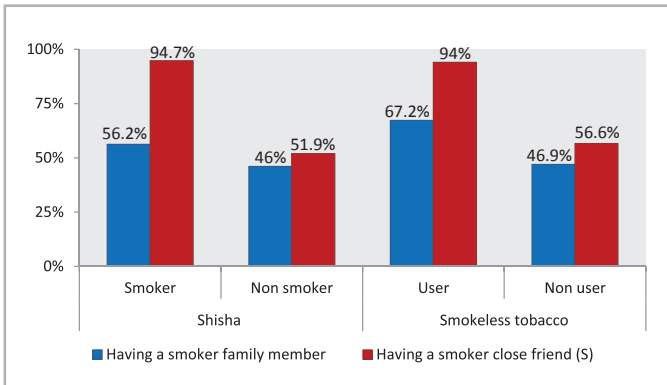


Figure 6.5 Distribution of shisha smoking and smokeless tobacco use by presence of smoker family member(s) and smoker close friend(s)

About 56.2% and 67.2% of shisha smokers and smokeless tobacco users, respectively, declared that they have a smoker family member, versus 46.0% and 46.9% of shisha non-smokers and smokeless tobacco non-users, respectively. At the same time, 94.7% and 94.0% of shisha smokers and smokeless tobacco users, respectively, declared that they have a smoker close friend, versus 51.9% and 56.6% of shisha and smokeless tobacco non-users respectively (Figure 6.5).

• Emotions and motives related to smoking

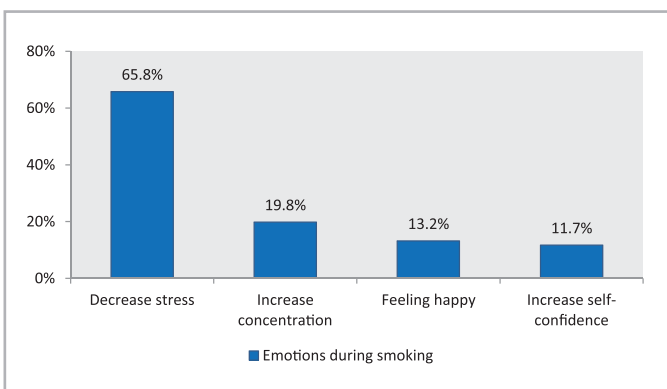


Figure 6.6 Distribution of shisha smokers and smokeless tobacco users by their emotions during smoking

Regarding the students' feelings during smoking, nearly 66% of current smokers claimed to feel decreased stress, 19.8% feel increased concentration, 13.2% feel happy and 11.7% feel increased self-confidence during the act of smoking (Figure 6.6).

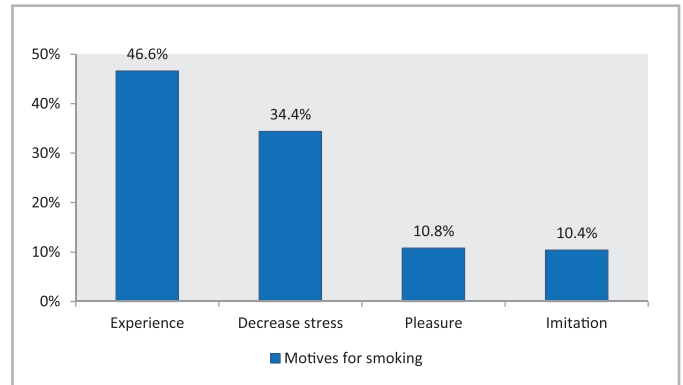


Figure 6.7 Distribution of shisha smokers and smokeless tobacco users by motives for smoking initiation

When university students were asked about their main motive to start smoking, 46.6% of current smokers claimed that they started smoking for the experience, 34.4% to reduce stress, 10.8% to seek pleasure and 10.4% to imitate others (Figure 6.7).

7. Economics of tobacco use among university students

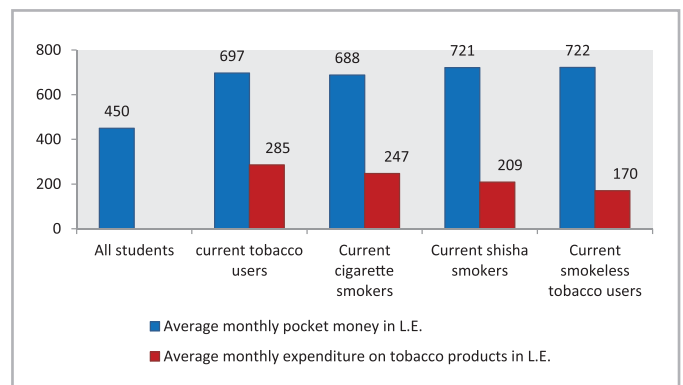


Figure 7.1 Current users' average monthly pocket money and average expenditure on tobacco products (in Egyptian pounds)

The mean monthly pocket money of all university students is 450LE, lower than that of tobacco users (697 LE). The average monthly expenditure on tobacco products for tobacco users was 285 LE. The average pocket money of current cigarette smokers was 688 LE and their average monthly expenditure on cigarettes was 247 LE. The average monthly pocket money of current

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shisha smokers was 721 LE and their average monthly expenditure on shisha smoking was 209 L.E. The average monthly pocket money of smokeless tobacco users was 722 L.E. and their average monthly expenditure on smokeless tobacco products was 170 LE (Figure 7.1).

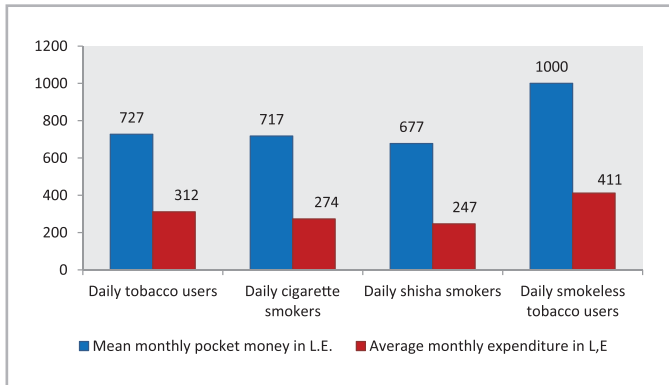


Figure 7.2 Daily users' average monthly pocket money and average expenditure on tobacco products (in Egyptian pounds)

The mean monthly pocket money of daily tobacco users was 727 LE while their expenditure on tobacco products per month was 312 LE on average. The average pocket money of daily cigarette smokers was 717 LE and their average monthly expenditure on cigarettes was 274 LE. The average monthly pocket money of daily shisha smokers was 677 L.E. and their average monthly expenditure on shisha smoking was 247 LE. The average monthly pocket money of daily smokeless tobacco users was 1000 LE and their average monthly expenditure on smokeless tobacco products was 411 LE (Figure 7.2).

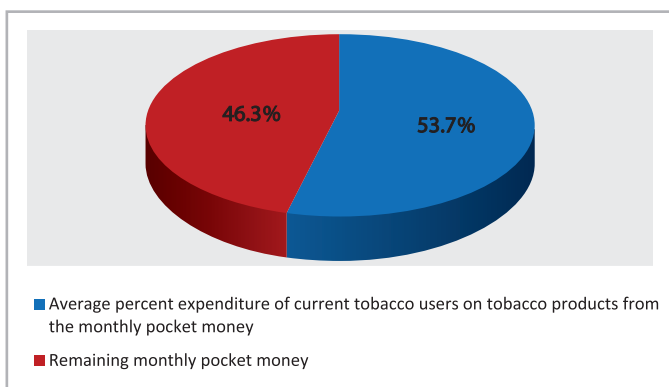


Figure 7.3 Current users' average percent expenditure on tobacco products from monthly pocket money

Current tobacco users spent on average 53.7% of their monthly pocket money on purchasing tobacco products (Figure 7.3), while daily tobacco users spent on average 56.2% of their monthly pocket money for that purpose.

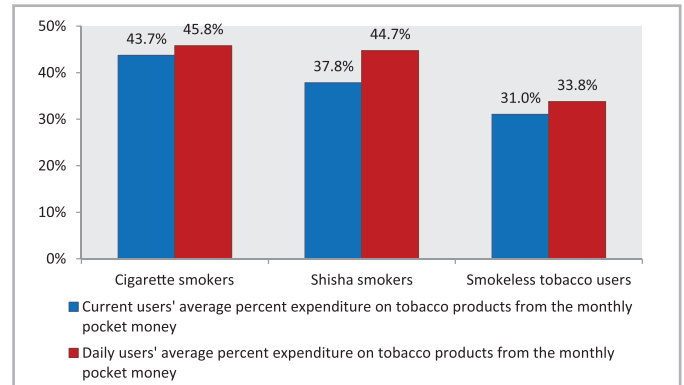


Figure 7.4 Current and daily users' average expenditure on tobacco products from monthly pocket money according to type of tobacco used

Daily users' average percent expenditure on tobacco products per month was higher than that of current users for all forms of tobacco use, as current cigarette smokers spent on average 43.7% of their monthly pocket money on smoking cigarettes while daily smokers spent 45.8%. The pattern of expenditure on other forms of tobacco was on average 37.8% and 44.7% for current and daily shisha smokers, respectively, and 31% and 33.8% for current and daily smokeless tobacco users, respectively (Figure 7.4).

Conclusions

- The most common form of tobacco use among the targeted age group is cigarette smoking, followed by shisha smoking (Figure 2.3). Almost three quarters of these tobacco users combine both cigarette and shisha smoking. This indicates the high exposure to risk and accordingly, the expected high morbidity and mortality burden in the future.
- The higher prevalence of shisha smoking among this young age group (12.2%) compared to that of adults population (7.1%)* (Figure 2.1) was more evident

*(Egypt STEPwise, 2012)



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among youth current smokers, where shisha smoking prevalence was much higher compared to that among adults current smokers (73.6% and 29.1% among youth and adults respectively). This indicates that shisha smoking is an emerging form of tobacco use in Egypt. This may reflect the targeting of youth by tobacco industry marketing and should be considered by decision-makers in tailoring future tobacco control measures in the country.

- The higher prevalence of current tobacco use compared to daily use among this age group (Figure 2.2) reflects that addictive levels among young tobacco users have not yet been reached. Also, the high percentage of smokers reporting quit attempts during the past 12 months (52% of them reported quit trials) points to an urgent need to provide current young smokers with accessible and affordable cessation services to support them in quitting.
- Among the 52% of current smokers who reported making quit attempts in the past 12 months, only 1% succeeded to quit. This low quit rate may result from social and peer pressure, which drive the smoker to start and continue the smoking behavior, or from persistent stress. Students reported that stress relief was the major emotion associated with smoking and an important motivating factor for initiating smoking (Figures 7.1 and 7.2).
- Around 64% of university students believe that shisha smoking is more harmful than cigarettes and about 22% believe it is equally harmful. This contradicts previous assumptions that the prevalence of shisha smoking is increasing because of the perception that its health hazards are less harmful than cigarette smoking.
- About 64% of university students were exposed to secondhand smoke inside university buildings, which reflects the lack of enforcement of national tobacco control laws banning smoking in public places. As well, almost half the students (47%) were exposed to secondhand smoke in their homes, which reflects the lack of public awareness about the health hazards of exposure to secondhand smoke. Both indicators show the absence of the model figures (i.e. professor and parent) who should be setting an example for this receptive age group.
- Current tobacco users in this young age group spent 54% of their monthly pocket money on using tobacco products. Policy-makers should consider the implications of such expenditure patterns, which come at the expense of other aspects and needs of the student's life, such as nutrition, leisure and physical activity.
- The significant higher average monthly pocket money of tobacco user students compared to others reflects the important role played by the financial capacity of the students and affordability of tobacco products. This significant relation urges the stakeholders and decision makers to progressively raise tax on all forms of tobacco products' to increase their prices proportionate to the inflation rate and citizens' purchase power considering this highly important sector of the community.
- Male sex, older age, residing in cosmopolitan areas, enrollment in a private university or high institute, peer effect, curiosity and desire for experience and reducing stress and amount of pocket money or the financial capacity are the main determinants of shisha smoking and smokeless tobacco use among university students.