

**"GEORGE EMIL PALADE" UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE
AND TECHNOLOGY FROM TÂRGU MUREȘ**

SCHOOL OF DOCTORAL STUDIES

Abstract of the Doctoral Thesis

Study of tobacco consumption among ninth-grade students in Chisinau, Republic of Moldova

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TÂRGU MUREȘ 2022



UNIVERSITATEA DE MEDICINĂ,
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Introduction

A particular problem for worldwide public health is smoking, and it has been shown that approximately 2/3 of smokers are experiencing their first cigarette by the age of 18, and 2/5 of adult smokers start smoking regularly at the age up to 16 years old. The health of the young generation represents a good investment for the country in the future. One of the determining factors affecting the health of adolescents is tobacco consumption. The formation of the adult behavior takes place in childhood and adolescence, respectively the change of this behavior must intervene during this period, therefore it is necessary to study the predictors of smoking and the basis of its susceptibility. The basis of knowledge, attitudes and practices, according to psychological studies, is laid in the adolescent period. The present thesis was carried out at the level of schools from Chisinau, Republic of Moldova. Thus, the examinations focused on the short- and medium-term impact of the law on tobacco and tobacco products on active smoking among ninth-grade students, the use of alternative tobacco products prohibited by this law, the use of electronics cigarettes and other tobacco products, as well as the influence of other articles of this law on smoking, such as the prohibition of advertising of tobacco products. Taking into account the fact that on September 17, 2015 in the Republic of Moldova the amendments to the law were approved (law no. 278/2007), this research was carried out in two different periods: before the implementation of the new legislation and two years after.

Objectives

The general purpose of the study was to evaluate the effectiveness of different intervention models addressed to adolescents in the Republic of Moldova, regarding the fight against smoking, with a preventive character. We also set out to study the habits of regular cigarette smoking among 9th grade students in the municipality of Chisinau. At the same time, we studied the habits regarding the consumption of electronic cigarettes and alternative tobacco products, the psycho-social aspects of students in relation to tobacco consumption and to evaluated the impact of the anti-smoking legislation in dynamics (2015-2018) on the prevalence of smoking among students in the municipality of Chisinau.

Methodology

The study was initiated as a continuation of the ASPIRA study from Târgu Mureș, Romania, extended to the Republic of Moldova. It was a cross-sectional prevalence study carried out in 20 institutions in Chisinau, randomly chosen according to predetermined criteria for inclusion and exclusion of schools from the study. The survey was carried out in two different periods of time: the first survey was between October-December 2015 and included 368 students, and the second one took place in February-April 2018 and included exactly the same educational institutions, including 819 students.

Study 1. Family status and socio-demographic profile of the entourage in association with cigarette smoking among Chisinau 9th grade students

This study represents a research on tobacco consumption among 9th grade students from Chisinau, during 2015-2018, and included several objectives: studying the prevalence of tobacco consumption among students before and after the amendment of the national legislation in the field of tobacco; studying the family and school environment of students in relation with smoking habits; evaluating the potential impact of the changes made in the national legislation regarding tobacco consumption and the impact of the implementation of the National Tobacco Control Program.

A general trend of increasing cigarette consumption was observed among students in Chisinau during 2015-2018. Despite fairly strict regulations on tobacco use in Moldova, adolescents still reported a significant increase in the prevalence rate of cigarette use in the last 30 days before interview, from 45.1% in 2015 to 55.8% in 2018. The proportion of boys versus girls who had ever tried conventional cigarettes was 61.4% versus 38.6% in 2015 ($p=0.001$) and 58.6% versus 41.4% in 2018 ($p<0.001$). It was found that the number of young people who smoke and have smoking friends is significantly higher. The presence of at least one close friend who smokes is a risk factor. Fortunately, anti-smoking messages have increased significantly and have been seen and read by students in shopping malls, supermarkets, cinemas, magazines and newspapers, and we believe this is a good start for future community education interventions.

Study 2. Prevalence of consumption of electronic cigarettes and alternative tobacco products among 9th grade students in the municipality of Chisinau

The second study aimed to assess the use of e-cigarettes, hookah (shisha), cigars, pipes and smokeless tobacco products such as chewing tobacco, snus and snuff use among 9th grade students in Chisinau, constituting an element of originality of the thesis. In addition, the study tested associations between e-cigarette use and a range of socio-demographic variables, exposure to e-cigarette advertising and regular cigarette use.

Our findings indicated that alternative tobacco products are less popular among students compared to e-cigarettes. The most popular among students in Chisinau is hookah. One in five teenagers tried this product at least once in their life. Our results showed an important, statistically significant increase in the consumption of electronic cigarettes among 9th grade students Chisinau, from 2015 to 2018. Participants' exposure to e-cigarette advertising increased significantly between 2015 to 2018. E-cigarette use was significantly associated with gender (boys were more likely to try e-cigarettes), school performance (students with low school grades are more likely to try e-cigarettes), exposure to e-cigarette messages, and perception of the harmfulness of electronic cigarettes (respondents who believe that electronic cigarettes are less harmful than conventional cigarettes or not harmful at all are more likely to use the product). Despite the fact that between the two surveys, legislation prohibits the advertising of tobacco products, drastically regulates electronic cigarettes and prohibits the sale of heated tobacco products, the effects of this legislative intervention were not observed in the results of those who consume electronic cigarettes and Alternative Tobacco Products.

Study 3. Aspects of susceptibility to smoking and influencing factors among non-smoking students from Chisinau

The third study was a study that includes only students who declared themselves non-smokers according to the definition given by the Center for Disease Control. The objectives of this study were to investigate for the first time for the Republic of Moldova some aspects of tobacco consumption among students. Thus, we set out to study the motivational profile and predisposition of students to tobacco consumption; to assess the susceptibility and temptation to smoke among students and to study the correlations of socio-demographic and environmental factors with susceptibility to smoking.

A significant association was found between susceptibility to smoking and sociodemographic characteristics (sex, smoking parents/friends/siblings) among adolescents. The significant association was also found between susceptibility and depressive states, especially major depressive symptoms. The psycho-emotional state of adolescents significantly influenced the state of susceptibility, especially self-efficacy, the temptation to smoke and decisional balance. A third of the surveyed students were curious about trying to smoke electronic cigarettes, although if given a possible choice to try smoking, the majority of non-smokers would go to try regular cigarettes. The results suggested that tobacco prevention programs should include family smoking prevention strategies because nonsmoking parents are a positive factor in reducing the chances of those who are susceptible to try tobacco.

Conclusions

Our research found a general trend of increasing cigarette consumption among Chisinau students between 2015 to 2018. The risk of starting to smoke is significantly higher among students who have close friends who are smokers or mothers who smoke. Anti-smoking messages have increased significantly and have been seen and read by students in shopping centres, supermarkets, cinemas, magazines and newspapers. Despite the fact that between the two surveys the legislation that prohibits the advertising of tobacco products was approved, and it drastically regulates electronic cigarettes and prohibits the sale of tobacco products that do not burn, the effects of this legislative intervention were not observed in the results of those who consume electronic cigarettes and alternative tobacco products.

The thesis's originality

The contribution of this research to the specialized literature is based on bringing new data related to the aspect of tobacco consumption among students in a country with low incomes, where global studies give the prevalence of smoking without studying the aspects related to the historical and spaces particularities. The actuality of the study comes from the comparison of data on tobacco consumption among students before and after the approval of the law on tobacco control in the Republic of Moldova. The study provides data on the association between students' family and school, complemented by their influence on students' smoking behavior. This is the first study to collect and report data about the consumption of alternative tobacco products among 9th grade students in Chisinau. Also, for the first time in the Republic of Moldova, the prevalence of alternative smokeless tobacco products was investigated. And last but not least, the research provides a better understanding of the risk factors that influence the susceptibility to tobacco consumption among Moldavian urban adolescents.