

Adolescent's Non-Recognition of Cigarette Smoking as a Risk Factor for Dementia: Give me one Cigarette butt! Pilot Study

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ABSTRACT

The article presents the extent to which pupils and students of Slovenian primary and secondary school are informed about dementia, with an emphasis on their attitude towards cigarette smoking as a risk factor for the development of dementia. The presentation of the research results of a survey between 35 primary school students (13-14 years old) and 35 high school students (16-19 years old) draws attention to the knowledge of the facts about dementia and the poor knowledge of variable risk factors for dementia among high school students compared to with primary school students ($p < 0.05$). The incorrect statement: "Smoking reduces the risk of dementia" was agreed by 20% of high school students and none of primary school students ($p < 0.05$), as well as 10.1% of those respondents who live permanently in rural areas and none of those permanently residing in an urban environment ($p < 0.05$).

Educating adolescents about dementia should take into account their knowledge gaps according to their age and place of residence and offer them optimal opportunities for formal and informal learning with an emphasis on a healthy lifestyle that reduces the possibility of dementia in late adulthood

Keywords

Dementia-related knowledge, Modifiable risk factor, Cigarette smoking, Primary school students, Secondary school students.

Introduction

The most common form of dementia is Alzheimer's disease, which represents 60-70% of dementias [1]. Although age is the strongest known risk factor for dementia, on the other hand, variable risk factors such as cigarette smoking are important for the onset of Alzheimer's disease in adulthood [2]. Adolescence is the period when many risky behaviours have a major impact on the health of adolescents and their health in adulthood and old age [2,3]. Researchers have identified several modifiable risk factors that affect the likelihood of developing of dementia, and cigarette smoking is one of them [4-7]. However, health problems and nicotine addiction are not only related to cigarette smoking, but also to the use of other products containing this substance - recently, electronic cigarettes (e-cigarettes) and tobacco products in which tobacco is heated are at the forefront among young people. Among

other things, nicotine in the body affects the functioning of the user's brain, as it is associated with a reward system, which affects the development of addiction. Nicotine use during adolescence has been associated with deleterious effects in the cerebral prefrontal cortex and hippocampal structure and can lead to irreversible decreased cognitive functions [4].

Smoking habits are generally established during adolescence. Even 80-90% of adult regular smokers start smoking and develop smoking habits and addictions up to 19 years of age [7]. Passive smoking is also harmful to health, as the differences in health effects between tobacco smokes inhaled directly from a cigarette or that inhaled from a smoking cigarette butt are minimal. While other forms of inhaled tobacco have been present for decades, the recent increase in popularity of e-cigarettes is rapidly changing the way adolescents interact with tobacco products. The health risks of e-cigarettes compared with traditional cigarettes are not yet clearly known, but the potential for accidental nicotine poisoning in infants and young children is well established [8]. As confirmed by

Koprivnikar (2011), there are numerous and intertwining factors that influence adolescent smoking and have to be considered when we develop and implement programmes and measures for the prevention and reduction of adolescent smoking. In different environments (schools, health system, local communities) we have to reduce risk factors and strengthen protective factors through programmes incorporated in the system [9]. The protective factors are low prevalence of smoking, healthy lifestyle, physical activity and good mental health, indicating the importance of links to programmes outside of the tobacco control [9].

Ovčar Štante et al. (2017) concluded that among the risky behaviors of adolescents, smoking is an important risk factor for cardiovascular disease in addition, consequent dementia [10]. When it comes to smoking, Slovenian boys and girls are more equal than in the past [11,12]. According to the 2018 survey, 8.8 percent of 15-year-olds and 19.8 percent of 17-year-olds smoke tobacco at least once a week, most of them every day, but the proportion of young people who smoke is declining compared to previous surveys, with the exception of daily smoking during 13-year-old boys [12]. A similar decline in smoking between 15-, 16- and 17-year-olds from rural Russia was also noted by Skvortcova and Lushkina (2018) [13]. Among the reasons for the decline in smoking among Slovenian young people are the more difficult access to tobacco products and higher cigarette prices. "In the period when the prices of tobacco products went up the most, this was certainly known in those groups that are more sensitive to prices and young people are among them," explained Jeriček Klanšček et al. (2019) [12].

The main purpose of the research was to check the knowledge of dementia among adolescents at primary and secondary school level in the central part of the Slovenian Savinjska statistical region. According to individual claims of dementia, we checked whether there were statistically significant differences in dementia information according to the age of the respondent, the fact that the respondent is related to a person with dementia and whether the respondent lives in urban or rural areas. We were also interested in whether respondents believe that smoking in adolescence is a risk factor for the later development of dementia.

Methodology

In order to describe the knowledge of dementia among adolescents and to explain the connection according to gender or the fact whether they have a relative with dementia, we used data collected from the Dementia Knowledge Survey in the study. As a basis for compiling the survey questionnaire, we used the questionnaires used by Hwang et al. (2013) and Glynn et al. (2017) [14,15]. The sample was presented by young people from two schools in Savinja region namely from the Lava Primary School in Celje (Primary School) and the Secondary Vocational and Technical School of the Šentjur School Center (Secondary School). Both schools are part of the Slovenian Network of Healthy Schools [16]. Following

the prior written consent of the management of both selected schools, data for the survey were collected in two periods from May to June 2019. In the first period (from 7 May 2019 to 21 May 2019) a preliminary survey was conducted among 7th and 9th grade students in the classrooms of the Primary School, which directed us to the creation of an appropriate online questionnaire for the research in question [17]. For the purposes of the research, we created an identical structured questionnaire in two versions as an online questionnaire and as a paper questionnaire. Thus, in the period from 22 May 2019 to 7 June 2019, the questionnaire was offered for completion to 36 students of the 8th grade of the Primary School and 91 students of the Secondary School. Primary School did not decide to solve the survey online, so 36 eighth-graders from it filled out a paper questionnaire. Of these, one survey questionnaire was without completed demographic data, so 35 completed questionnaires were then entered into the online survey with the help of a pedagogical worker at the Secondary School. In addition, of the 91 distributed questionnaires filled out by the students of Secondary School, only 35 were completely filled out.

The SPSS program (version 22.0, for Windows 10) was used for statistical analysis. Differences with $p < 0.05$ were considered statistically significant. Statistically significant differences in dementia awareness were found between different groups, which were established based on demographic data and data on the presence of kinship with a person with dementia. To determine statistically significant differences, we used the Hi-square test because we wanted to check whether the differences between the responses of the studied sample can be generalized to the population, because the variable is at the nominal level and because we have frequencies for the data. Where more than 20% of the expected frequencies were less than 5, the Likelihood Ratio was used. Due to the small sample, we used the Mann-Whitney test to test the differences between the two groups. The variable knowledge of dementia was calculated as the sum of the correct Responses present.

Results

Results are given using descriptive and inferential statistics and descriptive responses. They are given in two parts, as knowledge of the dementia-related facts and knowledge of smoking as variable risk factor for dementia.

Part 1 – dementia-related knowledge

Among the 70 respondents who completed the survey appropriately, there were 35 secondary school students (older adolescents aged 16 to 19) and 35 primary school students (younger adolescents aged 13 to 14). The sample included 18 students (25.7%) with a relative with dementia, 41 (58.5%) girls and 29 (41.4%) boys, and 57.1 percent of those from rural areas and 42.9 percent of those from urban areas (Table 1).

Table 1: Demographic data of surveyed students.

Gender	f	f (%)
Female	41	58.6
Male	29	41.4
Total	70	100.0
Age by groups		
13 to 14 years	35	50.0
16 to 19 years	35	50.0
Total	70	100.0
School		
Primary school	35	50.0
Secondary vocational and technical school	35	50.0
Total	70	100.0
Rural residency		
Yes	40	57.1
No	30	42.9
Total	70	100.0
A relative with dementia		
Yes	18	25.7
No	52	74.3
Total	70	100.0

Note: Descriptive statistics of frequency distribution f and f (%).

Questions/ Claims of knowledge of dementia and its variable risk factors were as follows:

1. Is dementia a disease of the brain?
 2. Dementia manifests itself as impairment of memory, recognition, mental abilities, orientation in the environment, planning, speech, and hearing.
 3. The number of patients after the age of 65 is growing.
 4. With age, memory impairment is normal.
 5. Dementia is contagious.
 6. Alzheimer's disease is the most common form of dementia.
 7. A person with dementia can live at home.
- The risk of dementia can be reduced by:
8. Regular physical activity.
 9. Consuming alcohol.
 10. Maintaining an appropriate body weight.
 11. Smoking.
 12. Eating healthy food.

In order to further evaluate knowledge about dementia, we introduced a new variable “knowledge” by counting and summing up the number of correctly given answers. On average, 66.7 % of students correctly answered 8 out of the 12 claims of dementia, the differences between the groups did not prove to be statistically significant either in terms of age ($p = 0.876$) or in terms of rural or urban settlement type ($p = 0.832$) or the fact whether they have a relative with dementia or not ($p = 0.350$). According to gender, the greatest differences in the level of knowledge are observed, the level of significance is only close to the limit of 0.05 ($p = 0.089$) for this variable, and a better level of knowledge was recorded in females (Median_{females} = 9 / Median_{males} = 8). In general, it turned out that both, younger or older respondents, further those from rural or urban areas and also respondents with or without relatives with dementia, have approximately the same knowledge about dementia ($p > 0.05$), which we list below.

97.1% of respondents agreed that dementia is a brain disease. Most of the surveyed primary and secondary school students answered that dementia manifests itself as memory impairment (97.1% of all responses), impaired recognition (61.4% of all responses), impaired mental abilities (42.9% of all responses) and deterioration orientations in the environment (41.4% of all responses). The least number of respondents chose the answers that dementia manifests itself as impaired hearing (2.9% of all responses), speech (21.4% of all responses) and planning (24.3% of all responses). 94.3% of respondents correctly agreed that the number of people with dementia is increasing after the age of 65. Only 11.6% of respondents thought that dementia is contagious, and 70.3% of respondents agreed that Alzheimer's disease is the most common form of dementia. Even 79.4% of respondents correctly agreed that a person with dementia can live at home, while 20.6% disagreed with the statement, including four (22.2%) of the 18 of students who have a relative with dementia. As many as 70.0% of respondents wrongly agreed that memory impairment is normal with age. However, this claim does not directly concern dementia-related knowledge, but may be a stereotype that falls under ageism.

Part 2 – Identifying smoking as a variable risk factor for dementia

Regarding variable risk factors for dementia, 76.8% of respondents agreed to reduce the risk of dementia through regular physical activity. As much as 85.5% of respondents agreed to reduce the risk of dementia by eating healthy food. Only 51.5% of respondents agreed to reduce the risk of dementia by maintaining a healthy weight, and even 8.7% of respondents wrongly agreed to reduce the risk of dementia by drinking alcohol.

Unfortunately, as many as 10.1% of respondents wrongly agreed to reduce the risk of dementia by cigarette smoking (Table 2).

Table 2: Does cigarette smoking reduce the risk of dementia.

Measurement indicators	Dependent variable		
Independent variables	Smoking reduces risk of dementia		
Age	Correct	Incorrects	Total
13 to 14 years	0 / 0.0 %	33 / 100.0 %	34 / 100.0 %
16 to 19 years	7 / 20.0 %	28 / 80.0 %	35 / 100.0 %
Total	7 / 10.1 %	62 / 89.9 %	69 / 100.0 %
χ^2	10.271		*
p (bilateral)	0.001 < 0.05		
Residency	Correct	Incorrect	Total
Rural	7 / 17.5 %	33 / 82.5 %	40 / 100.0 %
Urban	0 / 0.0 %	29 / 100.0 %	29 / 100.0 %
Total	7 / 10.1 %	62 / 89.9 %	69 / 100.0 %
χ^2	8.201		*
p (bilateral)	0.004 < 0.05		
Relative with dementia	Correct	Incorrect	Total
Yes	1 / 5.6 %	18 / 94.4 %	19 / 100.0 %
No	6 / 11.8 %	45 / 88.2 %	51 / 100.0 %
Total	7 / 10.1 %	62 / 89.9 %	69 / 100.0 %
χ^2	0.630		*
p (bilateral)	0.427 > 0.05		

Note: Chi-square test - Legend: χ^2 - value of Chi-square test, p - statistical characteristic,

* - violated Chi-square test conditions (more than 20% of expected frequencies are less than 5), therefore Likelihood Ratio was used.

Statistically significant differences were expressed in two areas, namely the variable "Reducing the risk of dementia by smoking" has statistically significant differences in responses by age group and area of residency ($p < 0.05$). There were statistically significant differences between the groups 13 to 14 years and 16 to 19 years between the correct answers of the dependent variable reducing the risk of dementia by smoking. The surveyed primary school students from 13 to 14 years of age were statistically significantly (with the exact level of characteristics $p = 0.025 < 0.05$) more likely to choose the correct answer than the respondents from 16 to 19 years of age. With a risk of less than 5%, it could be argued that there are statistically significant differences in responses between the younger (13 to 14 years) and older (16 to 19 years) group of respondents. The younger group of 13 to 14 years of age chose the statement "Reducing the risk of dementia by smoking" to be more incorrect (even by 100%) than the older age group (16 to 19 years), which also described the statement as correct about 20%). In addition, respondents who come from urban areas were more likely to choose the answer as incorrect as respondents who come from rural areas ($p < 0.05$). Due to the insufficient number of units by groups, the conditions of the Hi-square test were violated, so we used the Likelihood ratio, which is already stated in the methodology.

Discussion

Our study found that out of 12 questions on dementia-related knowledge, Slovenian students were on average able to answer two thirds correctly (66.7%). This result is comparable to the study of Isaac et al. (2017) in which the authors tested dementia-related knowledge in four-hundred and fifty adolescents, aged 15-18 years, from schools in Sussex (UK) [18]. This named study showed that out of 15 questions on dementia knowledge, participants were on average able to answer less than half correctly [18]. In another study, Parveen et al. (2018) established the dementia-related education needs of 42 British students aged 12 to 18 years [19]. Students listed key educational topics in the following order: the importance of dementia awareness, other topics of interest within dementia, the inclusion of the person with dementia and the use of social media. Similarly, Slovenian students would like to learn as much as possible about dementia via the Internet [20].

In the present study, Slovenian students performed slightly worse in knowing the variable risk factors for dementia, especially smoking. As many as a fifth of secondary vocational and technical school students incorrectly stated that smoking reduces the risk of dementia, which led to differences between them and students of primary school ($p < 0.05$). Unexpectedly, as much as 17.5% of students permanently living in rural areas also stated similarly, which led to differences between them and students from urban areas ($p < 0.05$). In a study by the Warren et al. in Georgia, USA (2015), middle school students reported higher levels of access to legal substances such as nicotine cigarettes, chewing tobacco in rural areas, and urban students reported higher levels of access to illicit substances alcohol, marijuana, and cocaine [21]. Similar findings were made by Lutfiyya et al. (2008) who found that rural residency is an independent risk factor for being a daily smoker

among adolescents aged 12 to 18 years [22]. However, these results are difficult to compare with adolescents from the Slovenian countryside, as there are no tobacco plantations in Slovenia as they have in some countries in the USA. Anyway, this finding calls for additional measures to prevent smoking in older adolescents and in those of the countryside with the help of Slovenian Network of Healthy Schools (in Slovenian: Slovenska mreža zdravih šol) which started in 1993 [16]. Since April 2019, 398 institutions have been operating in the Slovenian Network of Healthy Schools (323 primary schools, 62 secondary schools, 10 student dormitories, 3 institutes), which means 71% of all Slovenian schools. Healthy schools work holistically, a holistic view of health means health in all areas for everyone involved in different ways. The content of health in the curriculum means continuous teacher education, offering healthy activities at school, good organization and maintenance of order, quality professional communication between employees, students, parents, and cooperation with the local community and other institutions that can affect health [16]. Therefore, anything that can improve life and work at school is important.

Especially in rural areas, it would be useful for the Slovenian National Institute of Public Health (NIJZ) to intensify activities to reduce smoking not only on the occasion of the "Cigarette Free Day". Although the use of e-cigarettes is more widespread among young people, e-cigarettes are often promoted or perceived as a smoking cessation aid, but there is currently insufficient data and quality research to draw any conclusions about their effectiveness [23]. E-cigarettes are a diverse group of products that heat a liquid (usually containing nicotine) to form an aerosol that the user inhales through a mouthpiece. Nicotine intake in experienced e-cigarette users is comparable to that in cigarette smoking. The NIJZ does not recommend e-cigarettes for smoking cessation, as it believes that health professionals and counselors to help with smoking cessation are a credible and reliable source of health information, including on the harmfulness of smoking and smoking cessation [23]. The report of Koprivnikar and Zupanič (2018) cites the results of a survey on the use of e-cigarettes Among second-year high school students in Slovenia in 2017, namely on use at any time in life and use in the last 30 days and the characteristics of e-cigarette users according to selected socio-demographic indicators, their smoking status, exposure advertising and promotion and for students also in terms of perceived accessibility E-cigarettes [23]. In the last 30 days, 38.3% of surveyed students were exposed to advertising and promotion of E-cigarettes, despite the fact that advertising was banned at that time. After March 2017, according to the newly adopted Act on the Restriction of the Use of Tobacco and Related Products, advertising and promotion of e-cigarettes too, but not exhibition, was prohibited, and Koprivnikar et al. (2020) noticed in both genders of Slovenian 16-year-old adolescents a decrease in the percentage of ever cigarette smokers from 59% to 50% [24]. Additionally, they found an increase in the percentage of those who have never smoked and are also not susceptible to smoking from 32% to 40%, an increase in the percentage of those who do not have anyone who smokes tobacco among their five closest friends from 41% to 51%, a decrease in the percentage of ever

e-cigarette users from 37% to 31%, a decrease in the percentage of ever hookah users from 31% to 22%, and a decrease in the percentage of ever users of at least one tobacco product from 65% to 54% [24]. After the enforcement of a total ban on display of tobacco products and e-cigarettes, the percentage of 16-year-olds exposed to displayed tobacco products at points of sale has decreased from 81% to 71%, and the percentage of 16-year-olds exposed to displayed e-cigarettes at points of sale has decreased from 24% to 19% [24].

However, we must not forget that despite the fact that the prevalence of smoking among adolescents in Slovenia is slowly declining, the data still show that those who reach for tobacco products earlier are more likely to continue smoking in later life and have more problems with quitting. An important role in this whether the adolescent will start smoking is played by parents, peers, the media, the availability of cigarettes, legislation and adolescent self-esteem. Findings of Alexander et al. (2001) suggested that school environments are important contexts for understanding peer group influences on adolescent cigarette smoking [25]. The sample of the cited study was 2525 adolescents in grades 7–12 who completed an in-school questionnaire and an in-home interview. Adjusting for age, gender, race/ethnicity, parent education, school, and availability of cigarettes in the home, the risk of current smoking was significantly associated with peer networks in which at least half of the members smoked [odds ratio (OR) = 1.91], one or two best friends smoked (OR = 2.00), and with increasing rates of school smoking prevalence (OR = 1.73). In addition, there was a significant interaction of popularity and school smoking prevalence such that risk of current smoking was somewhat greater among popular students in schools with high smoking prevalence than among popular students in schools with low smoking prevalence.

Therefore, preventing smoking and making adolescents aware of the late harmful effects of smoking are all the more important [2,8]. Educating adolescents about smoking as a variable risk factor for developing dementia should be based on the realization that although there are countless reasons to stop using tobacco, but the best thing for health is still that smoking does not start at all. It is necessary to encourage the creation of such an environment that will sought and offered a variety of opportunities for healthy personal development in which there will be a cigarette unnecessary.

Limitations

The study has several limitations. It should be noted that in the pilot study, due to administrative barriers such as the last month of the school year and free additional workload for teachers, we could not provide a sufficiently large sample. The sample consisted of 70 units, and given the number of all adolescents in both schools where the study was conducted, the sample should be increased to at least 135 units in order to generalize the results to the surveyed population of adolescents in these institutions. It would be good to ask adolescents in the study if their parents

smoke. Despite the limitations, the research draws attention to the importance of raising awareness among adolescents about the actual symptoms of dementia, and on the other hand highlights their misconceptions that smoking tobacco in adolescence does not affect the development of dementia in adulthood.

Conclusion

In summary, the current study found multiple differences between older and younger adolescents, and rural and urban students in awareness of smoking as a risk factor for dementia. The reason may be hidden in the fact that there are probably too few activities in rural areas that would help adolescents to properly perceive the health dangers of smoking. For example, rural adolescents may have experienced less exposure to anti-tobacco advertising campaigns that can create an environment in which tobacco use is considered less acceptable. Furthermore, they may not pay enough attention to media messages about the dangers of tobacco use. In addition, nowadays the exposure to smokers in the adolescent environment is still neglected as a significant risk factor for tobacco use. Namely, the increased likelihood of exposure to smoking peers and adults most likely contributed to an environmental milieu conducive for adolescents to first try, and then maintain, tobacco use in rural settings. Future research should investigate ways to identify if the rural area is really a potential risk for smoking, and educational ways to change adolescents' misconceptions about smoking.

References

1. <https://www.who.int/news-room/fact-sheets/detail/dementia>
2. <https://apps.who.int/iris/bitstream/handle/10665/312180/9789241550543-eng.pdf?ua=1>
3. Edwards GA III, Gamez N, Escobedo G Jr, et al. Modifiable Risk Factors for Alzheimer's Disease. *Front Aging Neurosci.* 2019; 11: 146.
4. Del Ciampo LA, Del Ciampo IRL. Adolescent brain and nicotine. *Journal of Drug Delivery and Therapeutics.* 2020; 10: 232-234.
5. Lim K H, Lim H L, Teh C H, et al. Smoking among school-going adolescents in selected secondary schools in Peninsular Malaysia—findings from the Malaysian Adolescent Health Risk Behaviour (MyaHRB) study. *Tobacco Induced Diseases.* 2017; 15: 9.
6. Valente T. Peers, Schools, and Adolescent Cigarette Smoking. *Journal of Adolescent Health.* 2001; 29: 22-30.
7. Grapatsas K, Tsiligianni Z, Leivaditis V, et al. Smoking habit of children and adolescents: an overview. *Ann Res Hosp.* 2017; 1: 26.
8. Harvey J, Chadi N. Canadian Paediatric Society, Adolescent Health Committee. Preventing smoking in children and adolescents: Recommendations for practice and policy. *Paediatr Child Health.* 2016; 21: 209-214.
9. Koprivnikar H. Dejavniki, ki vplivajo na kajenje mladostnikov. Influences on adolescent smoking. *Zdrav Vestn.* 2011; 80: 499-505.

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10. Ovčar Štante K, Potočnik J, Rakuša M. Vaskularni kognitivni upad in vaskularna demenca. *Zdrav Vestn.* 2017; 86: 331-345.
 11. <http://www.nijz.si/>
 12. https://www.nijz.si/sites/www.nijz.si/files/publikacije-datoteke/hbsc_2019_e_verzija_obl.pdf
 13. Skvortcova ES, Lushkina NP. The Tobacco Smoking among Rural Adolescents. *Probl Sotsialnoi Gig Zdravookhranennii Istor Med.* 2018; 26: 282-286.
 14. Hwang E, Kim B, Kim H. A Study of Dementia-related Knowledge and Attitudes in Adolescents. *Korean J Rehabil Nurs.* 2013; 16: 133-140.
 15. Glynn RW, Shelley E, Lawlor BA. Public knowledge and understanding of dementia-evidence from a national survey in Ireland. *Age and Ageing.* 2017; 46: 865-869.
 16. <https://www.nijz.si/sl/slovenska-mreza-zdravih-sol>
 17. Cerar T, Konavec N, Hlebec V. Uporaba ekspertnih shem za kvalitativno testiranje anketnih vprašalnikov. *Teorija in praksa.* 2011; 48: 393-410.
 18. Isaac MGEKN, Isaac MM, Farina N, et al. Knowledge and attitudes towards dementia in adolescent students. *Journal of Mental Health.* 2017; 26: 419-425.
 19. Parveen S, Farina N, Shafiq S, et al. What do adolescents perceive to be key features of an effective dementia education and awareness initiative? *Dementia.* 2020; 19: 1844-1854.
 20. Felc B. Suggestions of Slovenian students on ways to acquire dementia-related knowledge. *Journal of medical-clinical research & reviews.* 2022; 6: 1-7.
 21. Warren JC, Bryant Smalley KB, Barefoot N. Perceived Ease of Access to Alcohol, Tobacco, and Other Substances in Rural and Urban US Students. *Rural Remote Health.* 2015; 15: 3397.
 22. Lutfiyya MN, Shah KK, Johnson M, et al. Adolescent daily cigarette smoking: Is rural residency a risk factor? *Rural and Remote Health.* 2008; 8: 1-12.
 23. https://www.nijz.si/sites/www.nijz.si/files/publikacije-datoteke/e_cigarete_raz_dij_stud_2017.pdf
 24. <https://www.nijz.si/en/publikacije/changes-in-smoking-behaviour-after-enforcement-first-measures-restriction-on-use-tobacco>
 25. Alexander C, Piazza M, Mekos D, et al. Peers, schools, and adolescent cigarette smoking. *Journal of Adolescent Health.* 2001; 29: 22-30.