Ernesta Paukštė

ORGANIZING CHILDREN AND YOUTH TOBACCO PREVENTION IN COMMUNITY
Masters’ thesis
(Public health management)

Supervisor of the work
PhD Aurelijus Veryga

KAUNAS, 2011
Ernesta Paukštė

VAIKŲ IR JAUNIMO RŪKYMO PREVENCIJOS ORGANIZAVIMAS BENDRUOMENĖJE

Magistro diplominis darbas
(Visuomenės sveikatos vadyba)

Mokslinis vadovas
doc. Aurelijus Veryga

KAUNAS, 2011
SUMMARY


Aim. To assess the association of smoking prevention program with children knowledge and attitudes towards smoking as well as with their smoking behavior.

Methods. Survey targeted at the 11-15 years old pupils and was carried out in four schools in Latvia and four schools in Liverpool before and after peer-to-peer pilot intervention. 931 questionnaires in Riga and 836 in Liverpool were used for data analysis. SPSS 15.0 for Windows has been utilized for processing the statistical data. The statistical significance of the data in question was tested, by using the chi-square (χ²) and Z criteria.

Results. 15% of pupils in Riga (12% girls and 19% boys) and 8% in Liverpool (13% and 5%) smoked during last month, from which 3% and 1% - smoked daily. 92% of respondents in Liverpool and 94% in Riga knew that smoking is harmful for health. Before intervention 85% of pupils in Riga and 90% in Liverpool declared not smoking if one of the best friends offered a cigarette, ever smokers were less likely to resist. 35% in Liverpool and 49% Riga thought that girls and accordingly, 29% and 40% boys who smoke have less friends. Majority of population in both cities thought that smoking makes young people look less attractive. Approximately, half of the smokers were willing to quit with higher percentage of those who smoked daily. 50% of children in Riga and 44% in Liverpool schools were exposed to ETS at least one day, last week (daily, 22% and 19%), which was strongly associated with parental smoking. 89% of pupils in Liverpool schools and 94% of pupils in Riga perceived passive smoking as a health hazard. 64% of pupils in Riga thought that children, 36% thought that adults and 68% thought that pregnant woman should never be exposed to ETS, in Liverpool accordingly 65%, 47%, 76% of pupils thought the same. Better knowledge was associated with non-smoking and no exposure to ETS at home and in Liverpool with male gender. Smoking prevalence in Riga decreased by 7% (p<0,05), in Liverpool by only 1% after intervention. Frequency of smoking and the number of cigarettes smoked per day decreased in both cities. In Liverpool, percentage of those who would not definitely smoke if one of the best friends offered a cigarette, increased by 7% (p<0,05). Attitudes towards smokers slightly changed to less favorable. The increase by 10% in Liverpool (p<0,05) and 4% in Riga of those who thought that adults should never be exposed to ETS was documented. In Liverpool the percentage of smokers who intend to quit increased by 21% (p<0,05).

Conclusion. The study indicated that peer-to-peer pilot intervention had slightly improved pupils’ knowledge about active and passive smoking and changed attitudes towards smokers to less positive. It may have influenced the decrease in smoking prevalence by 7% among pupils in Riga. Significant changes in smoking prevalence in Liverpool were not documented, however, it made pupils more likely to cease smoking.

Keywords: youth smoking prevention, peer-to-peer intervention.
SANTRAUKA


Darbo tikslas. Ivertinti vaikų rūkymo prevencijos programos reikšmę vaikų žinioms, nuostatomis apie rūkymą bei jų rūkymo įpročiams.


Išvados. Tyrimas parodė, jog bendraamžis-bendraamžiui bandomoji intervencija pakeitė moksleivių žinias apie aktyvų ir pasvęs rūkymą lygį bei pakeite jų požiūrį apie rūkantyvius į mažiau pozityvų. Taip pat galėjo įtakoti rūkymo paplitimo 7 proc. sumažėjimą Rygoje. Reikšmingų rūkymo paplitimo pokyčių Liverpoolyje nebuvo nustatyta, tačiau po intervencijos moksleivių buvo labiau linkę mesti rūkyti.

Raktažodžiai: vaikų rūkymo prevencija, bendraamžis-bendraamžiui intervencija.
CONTENT

1. INTRODUCTION ............................................................................................................. 7
2. AIM AND OBJECTIVES ................................................................................................. 9
3. LITERATURE REVIEW .................................................................................................. 10
  3.1. Smoking and health ............................................................................................... 10
  3.2. Smoking prevalence trends ..................................................................................... 12
  3.3. Smoking and young people ...................................................................................... 12
  3.4. Health disparities and inequalities: Socio-economical status and smoking .............. 15
  3.5. Benefits of smoking cessation and importance of not initiating smoking ............... 16
3.6. Tobacco control and young people .......................................................................... 18
4. RESEARCH METHODOLOGY ....................................................................................... 23
  4.1. Targeted population and research plan .................................................................. 23
  4.2. Riga ......................................................................................................................... 25
  4.3. Liverpool ................................................................................................................ 28
  4.4. Statistical analysis .................................................................................................. 29
5. RESEARCH FINDINGS AND DISCUSSION ................................................................ 30
  5.1. Baseline survey ...................................................................................................... 30
  5.1.1 Smoking prevalence ......................................................................................... 30
  5.1.2. Knowledge and attitudes ................................................................................ 37
  5.1.3. Smoking cessation history and intentions to quit ........................................... 52
  5.2. Follow up survey: results and comparison to baseline data .................................. 56
  5.2.1. Pupils’ opinions about particular aspects of sessions led by their peers .......... 56
  5.2.2. Smoking behaviour and prevalence ............................................................... 60
  5.2.3. Attitudes and knowledge ................................................................................. 63
  5.2.4. Intentions to quit .............................................................................................. 73
6. CONCLUSION ............................................................................................................... 76
7. RECOMMENDATIONS ................................................................................................. 78
REFERENCES ................................................................................................................... 79
APPENDIXES .................................................................................................................. 87
ABBREVIATIONS

ETS – Environmental tobacco smoke
EU – European Union
FCTC – Framework Convention of Tobacco Control
GYTS - Global Youth Tobacco Survey
SHS – Second-hand smoke
UK – United Kingdom
WHO – World Health Organization
1. INTRODUCTION

Damage caused by tobacco use is considerable. According to World Health Organization smoking and other forms of tobacco use is the leading preventable cause of death and the second biggest cause of death in the world, as it causes 1 in 10 death’s among adults worldwide. It was estimated that tobacco killed 5.4 million people in 2005 which on average is 1 death every 6 seconds [1]. Smoking is a risk factor for six of eight leading causes of death worldwide and kills up to half of all users. Over 650,000 Europeans die every year because they smoke [2]. 13 million people are suffering from chronic diseases as a result of their smoking [2]. Based on more than 57,000 reports and studies, tobacco smoking has been identified as a major cause of coronary heart disease, stroke, many forms of cancer, peripheral vascular disease as well as a variety of other diseases and conditions [3].

Numerous studies have proved that smoking has a cumulative effect on health. Therefore duration of smoking plays a big role [4,5]. It is the strongest determinant of lung cancer risk [4]. Risk also increases depending on the extent of smoking. For example, mortality from lung cancer is 25 times higher in heavy smokers than in never-smokers [6].

It is well documented that the age of smoking initiation plays a big role - the younger person starts to smoke the more likely he/she will become a long term smoker – people who start to smoke in their teens are more likely to become lifelong smokers than those who take up the habit later [7]. That is why, nowadays, smoking addiction is considered as a “pediatric disease” [8]. 80% of recent smokers began to smoke before they reached adulthood [4, 9]. For example in Australia, more than 90 per cent of current smokers began to use tobacco when they were teenagers [10]. Taking into account that smoking has an accumulative effect on health the risk of diseases caused by smoking increases even more. However, smoking prevalence among young people remains relatively high and despite recent laws to ban smoking indoors, many children and young people are often exposed to second-hand smoke, which is a serious health hazard and contributor to health inequalities. Moreover, around the world between 82 000 and 99 000 young people start smoking daily [11]. Statistics shows that the use of any form of tobacco by 13–15 year old students is greater than 10 per cent [12]. In addition, according to World Health Organization estimations nearly 700 million or almost a half of worlds children are constantly exposed to second hand smoke, particularly at home [13]. Hence, work with young people to reduce smoking prevalence and exposure to second
hand smoke amongst them is a priority of tobacco control. By experimenting with tobacco, young persons place themselves at risk for nicotine addiction. Schools are ideal settings in which tobacco use prevention programs can be provided to all children and adolescents and to be the most effective such programs must target population before they initiate tobacco use [14,15]. The use of widely practicable ways of helping large numbers of young people not to become smokers has a long term effect on public health as it could avoid hundreds of millions of tobacco-related deaths in the middle and second half of the twenty first century, but not before [13].

Peer-to-peer education programs are common means of addressing youth. However, significant gaps remain in fully understanding the effectiveness of such interventions - there is generally a lack of evaluation and evidence of impact or health outcomes. A two year project: “Working with Communities to Reduce Health Inequalities: Protecting Children and Young People from Tobacco” which primary objective was to develop effective methods of engaging local communities and “peer groups” to bring lifestyle changes that generate positive health outcomes and reduce health inequalities targeted children and young people from socially excluded and disadvantaged communities that have poor health indicators.

This study will focus on peer-to-peer interventions that were delivered in school settings in two participating cities in Europe – Liverpool (United Kingdom) and Riga (Latvia). It will examine what changes intervention have brought in targeted population regarding children and youths smoking prevalence, attitudes and knowledge as well as intentions to give up the habit or not initiate it.
2. AIM AND OBJECTIVES

Aim

To assess the association of smoking prevention program with children knowledge and attitudes towards smoking as well as with their smoking behavior.

Objectives

1. To assess active and passive smoking prevalence among pupils in Riga and Liverpool secondary schools before intervention.

2. To evaluate knowledge and attitudes about active and passive smoking among pupils in secondary schools of Riga and Liverpool before intervention.

3. To examine changes of knowledge, attitudes and smoking habits among pupils after intervention.
3. LITERATURE REVIEW

3.1. Smoking and health

Damage caused by tobacco use is considerable. Concern is not only the individual health, but it is also a burden for economy where loss can be counted through higher demands for health service, increased number sick leaves, premature deaths, life in disability and many others. To start with, tobacco use refers to the use of any product that contains nicotine, such as cigarettes, cigars and smokeless tobacco [16]. Nicotine is the constituent of tobacco that is responsible for addiction and results in maintenance of smoking behavior as it exerts its addictive effect by activating the brain mesolimbic dopaminergic reward system. Individual susceptibility to nicotine addiction varies [4]. Tar is attributable to the strongest A class carcinogens and cause cancer. Many carcinogenic substances are the compounds of tar. The combustion of tobacco produces smoke that consists of mainstream smoke (which is inhaled and exhaled by a smoker) and side stream smoke (which comes from cigarette or cigar end). They both consist environmental smoke, which is a combination of exhaled mainstream and side stream smoke [4]. Breathing air polluted with environmental tobacco smoke is called passive or involuntary smoking. The main cause of passive smoking is cigarette smoking as it is the most prevalent form of tobacco use [5].

Smoking is a risk factor for six of eight leading causes of death worldwide and kills up to half of all users. Currently, tobacco use causes approximately 4 million deaths a year worldwide, where 2 million of them occur in developed and 2 million in developing world. However, these numbers reflect smoking patterns decades ago as according to WHO cigarette consumption has increased over the last 50 years worldwide. Based on these, current smoking patterns, annual mortality from tobacco worldwide is likely to increase every year and will reach approximately 10 million cases of deaths in the year 2030 [5]. According to estimations, in Europe, over 650,000 people die every year because they smoke [2]. 13 million people are suffering from chronic diseases as a result of their behavior [2].

Smoking is the strongest determinant of lung cancer risk [5]. Obviously, the risk increases depending on the extent of smoking. For instance, mortality from lung cancer is 25
times higher in heavy smokers than in never-smokers [6]. Moreover, smoking is associated with increased risk of cardiovascular diseases, respiratory diseases, such as destructive pulmonary disease, cancers (lung, esophagus, lip, throat, bladder, kidney and many other) [17]. Smoking increases the risk of male impotence as well as woman who smoke can experience menstrual problems, and reduced fertility. In young smokers smoking hurts their physical fitness, both performance and endurance, shortness of breath, lower level of lung function and the growth of lung rate can be disturbed as well [9].

Another huge problem, which is strongly linked to children health is passive smoking, Passive smoking is commonly perceived as not hazardous or less hazardous to health compared with active smoking. However, numerous of studies have showed that it is as dangerous and is linked to the same diseases as active smoking. There is no known safe level of exposure to tobacco smoke. According to very conservative estimates, more then 79,000 adults die each year from passive smoking in 25 EU countries. 7000 deaths was attributable to passive smoking at work and 72,000 deaths was due to passive smoking at home in EU, in a year 2000. However, this estimation only includes deaths form heart diseases, stroke, lung cancer and some other respiratory diseases caused by passive smoking, but does not include other deaths related to it such as pneumonia, children mortality and high morbidity of severe diseases (acute & chronic) induced by passive smoking [6, 13]. Passive contributes to health inequalities. Children are vulnerable group that do often suffer from passive smoking. According to World Health Organization, more than 700 million children or half of the world children are constantly exposed to second hand smoke. Parents who smoke in front of their children pose a serious threat to their health. One of the British studies indicates that in households where both parents smoke, young children have a 72 per cent increase risk of respiratory illnesses [13]. Effects of passive smoking on health can be acute and chronic for otherwise healthy people [2,18,19]. For asthma sufferers tobacco smoke can cause immediate danger by triggering asthma attacks [13] as well as it contributes to development of asthma in those who previously were not affected. Passive smoking causes middle-ear disease (ear infections) and Cot death (sudden infant death syndrome) [2]. Regular exposure to smoke contributes to the four times quicker development of full-blown AIDS in those who are HIV positive [8,13]. Besides, passive smoking almost doubles the risk of macular degeneration, which is the main cause of blindness in European Union [8,13].
3.2. Smoking prevalence trends

According to WHO (2008) there are more than one billion smokers in the world. Globally, approximately 40% of all men and about 9% of women smoke [20]. Majority of adult smokers - more than 80% now live in low- and middle- income countries [21]. However, rates of smoking prevalence do vary by countries and by gender. In high-income countries, smoking prevalence rates for men and women are similar, 32% and 18%, respectively. In middle-income countries, however, men smoke substantially more than women, 45% and 7%. In low-income countries, smoking prevalence rates in men and in women are 28% and 4%, respectively [22]. China provides a particularly start example: 53.4% adult male smoking prevalence contrasting with only 4% among woman [21]. Globally, use of tobacco products is increasing, although it is decreasing in high-income countries. However, full extent of epidemic among females has not yet been realized [2]. Moreover, about 30 per cent of young adults become persistent smokers and relatively few quit. Based on these current smoking trends, annual mortality from tobacco around the world is very likely to increase from approximately a million deaths in 2000 to about 10 million around a year 2030 [5]. Tobacco companies are now targeting developing world as well as there is some evidence that their focus is on deprived areas and low socioeconomic groups, which is a great public health concerns as those areas and groups already have poorer health indicators [21].

3.3. Smoking and young people

Talking about smoking and young people, there are many reasons that exist as to why young people begin and then maintain this habit. Nicotine addiction in young persons follows the same process as in adults and results in withdrawal symptoms as well as failed attempts to quit [9]. Which just highlights the importance of cessation programs to help those young people who already use tobacco to stop smoking or not to initiate smoking [23]. The 1994 US Surgeon General’s report “Preventing Tobacco Use Among Young People” described 4 categories of psychosocial risk factors associated with smoking initiation among adolescents:
socio-demographic, behavioral, personal, and environmental [24]. Personal factors are those that are inherent in the individual. They included values, cognitive processes, personality constructs and psychological wellbeing [9]. These factors serve as a filter, through which socio-demographic and environmental factors have to pass as they influence ones’ behavior. Among the behavioral and personal factors that may increase smoking initiation among adolescents are: poor academic achievement, participation in risk-taking activities, low self-esteem, level of knowledge about the health consequences of smoking and higher susceptibility to peer influences [9,25,26]. Personal factors help to explain differences why people behave differently in particular situations although they are exposed to the same or very similar environments. One of socio-demographic factor is age. It is also a risk factor consistently linked with the onset in early adolescence. Age of 11 to 15 years is the peak age group for the first trial and experimentation with cigarettes [9]. Environmental factors that might have an impact for adolescents to start using tobacco included smoking by parents, siblings, and peers, as well as not having a rule prohibiting smoking in the home [24]. In general, parental smoking has a strong influence on smoking initiation among younger children, but as young people enter their teens, smoking initiation is more strongly associated with peer smoking [27].

Tobacco advertising and promotion is another factor that does have a strong influence on young one’s smoking. Following a European Directive, advertising of tobacco products was banned in EU in 2002, whereas tobacco sponsorship was banned in 2005 [21]. Comprehensive bans of tobacco advertising and other forms of marketing, has been shown to reduce smoking prevalence and importantly smoking initiation by young people [28]. According to World Bank estimations such bans can reduce consumption of tobacco products by almost 10% [30]. Despite of that, tobacco is still marketed through various ways and devices. For instance, celebrities continue to be shown in films, TV and magazines smoking which creates a positive images of smokers highly influential for youths [31].

Talking about adolescent cigarette smoking, special importance is attached to peer group [32]. Strongly habitual and addictive behavior is generally more subject to peer pressure than other behavior and many studies provides evidence to support the assumption that the peer group plays a huge role in the initiation and maintenance of smoking as they become as strong social influence that reinforces smoking behavior [32, 34]. Smoking is often described as a “social” event that helps adolescents to “fit in” with a peer group [34]. The
strongest association and the most evidence based is the association between adolescent and friend smoking [32]. Teen's attitudes towards their friends, classmates, boyfriends and girlfriends who smoke can make a difference to their own likelihood of smoking. Studies have shown that the single most direct influence on smoking among young teens is the smoking habits of their five best friends. Youths may start experimenting because their friends offer them cigarettes [35]. Girls with a best friend who smokes are nine times likelier to become smokers themselves than those with non-smoking best friends [33]. One study where students where employed as co-researchers to speak with adolescents to collect information for better understanding of youth smoking etiology have showed that if young person is surrounded by peers who smoke, then there is and “unspoken pressure” to become a smoker too [34]. Friends are also a potential negative influence during an adolescent’s quit attempt [34]. Interestingly, same study have shown that at the same time that adolescents describe the powerful influence of peers to promote smoking they also identify peers as being ineffective and powerless at discouraging other adolescents from smoking [34]. However, again participants of this study indicated that adolescents talking to other adolescents about smoking could be an effective intervention, although they were not sure of what messages could be effective [34].

When it comes to young people and smoking, not only the active smoking is a problem. Another tobacco related issue is passive smoking as tobacco abuse, now and in the past, has been a custom and addiction primarily of men, leaving women and children as the majority of the world’s passive, or involuntary, smokers. According to WHO estimations nearly 700 million children breathe air polluted by ETS, especially at home [13]. In 2004, second-hand smoke (SHS) is estimated to have caused about 600 000 premature deaths (28% among children). Of the 430 000 adult deaths, about 64% were among women. Although by 2008, 160 million people worldwide had been covered by comprehensive smoke-free laws, nearly 90% of the world’s population is not protected, and laws do not limit exposure to SHS in homes where women and children are exposed through the smoking of male family members [22].

To illustrate the situation better and give some numbers, in a year 2007, 32.9% of youths aged 13-15 smoked at least one day during the month preceding survey in Latvia according to Centers for Disease Control and prevention. From which 36.3% were boys and 30.2% were girls. Moreover, same year 55.1% 13-15 years old youths reported passive
smoking at home during last week [29]. In other Baltic states numbers were similar: in Estonia, in a year 2007 smoking prevalence among 13-15 years olds was 27.2%, from which 28.2% boys and 26.2%; in Lithuania in a year 2005 prevalence among same age youths was 29.6%; 33.8% boys and 25.9% girls. Same year (2007), 41.1% of children in Estonia reported passive smoking at home and 43.1% in Lithuania (2005) reported the same [29]. Tobacco epidemic in the UK is characterized by declining smoking prevalence among men and woman, however it remains the single greatest cause of preventable illness and premature death. In 2004 it was estimated to be responsible for 106,000 deaths each year. The health impacts of smoking in the UK are inequitable. Reductions in smoking rates among lower income groups have lagged far behind those for wealthier ones [21]. In United Kingdom the average prevalence of smoking is approximately 22% whereas, according to the Liverpool PCT Smoking Prevalence Survey, 28.7% of residents are smokers. However, there was a reduction of smoking prevalence from 35%. Local rates were slowly falling before the smoking legislation was introduced and have continued to fall since. Since the peak of smoking in 1970s in Britain, the gap between men’s and women’s smoking has narrowed and in 2004, 26% of men and 23% of woman smoked [21]. The great concerns is the uptake of smoking by young girls. According to statistics, same year smoking among 12-15 years old youths the rate of smoking among girls is now greater than boys. Again same year in Scotland, 24% of 15 year-old girls were regular smokers in comparison to 14% of boys [21].

3.4. Health disparities and inequalities: Socio-economical status and smoking

A disparity can be defined as the condition or fact of being unequal for example in age, rank or degree and is used to describe unequal health conditions or indicators. Health inequalities almost always are related to social inequalities. Health and disease can usually be mapped against the socio-economic gradient so successively more advantaged groups are see to have better health [43]. Therefore, socioeconomic status is often seen as a leading predictor of all causes of disease [38]. Cigarette smoking is highly socially patterned. It is now not only the most important preventable cause of death and illness, but also a cause of
inequalities in health, that accounts for half the difference in survival to age 70 between socio-economic groups I and V [40]. The highest smoking rates are among people who have low socioeconomic status, low education (studies show differences in smoking by educational status) [38], low income, live in areas of deprivation and are socially marginalized, for instance prisoners [21]. Disparities related to tobacco can be named as differences in exposure to tobacco, initiation of tobacco, smoking status, the number of cigarettes smoked per day, cessation, treatment, relapse and consequences for health among particular populations, including differences in capacity and infrastructure as well as access to recourses [36]. Socio economic status is strongly associated with smoking rates. For instance, in a year 2004, in Queensland (Australia) smoking rates were 50 per cent higher in remote and very remote areas, compared with the major cities of the state [42]. Another example, in Britain in 2004, 31% men of manual workers smoked in comparison with 22% in non-manual groups [39]. Within rich countries, the affluent are giving up smoking, whilst poorer people are continuing with their habit and, similarly in poorer countries men of low socio-economic status are more likely to be smokers [30]. To some extent, tobacco use provides a marker of deprivation, same as the health effects are concentrated in those who are less well off [4]. Study with 10 years old children, carried out in America have showed a significant difference between passive smoking a socioeconomic status. Regarding status daily passive smoking varied from 41 % among children with lower and 21 % higher socioeconomic [41]. So, the lower is the status of a child – more likely that he/she is or will be exposed to second hand smoke. The specific socio-demographic risk factors for smoking initiation during adolescence in the United States were low socioeconomic status, being male, being white, low parental education level, and living in a single-parent household [25, 26].

3.5. Benefits of smoking cessation and importance of not initiating smoking

Reducing the incidence of smoking related cancer depends either on reducing the uptake of smoking or promoting smoking cessation [4]. Tobacco use and addiction progress

---

1 Inequality – can be defined as the quality of being unequal or uneven. It can express in access to care, quality of health care, socio-economic indicators that impact health care and etc. [33].
through a series of stages that include: intension to use, initiation, experimentation, regular smoking, addictive use, cessation and relapse [44]. Once the habit is developed, it is not easy to give it up and majority of the smokers say that they wish they had never started. Therefore, it is smoking persistence that is responsible for the health consequences [46]. Almost all first attempts to use tobacco products occurs’ during high school years [45]. Age of 11 to 15 years is the peak age group for the first trial and experimentation with cigarettes [9]. 80% of recent smokers began to smoke before they reached adulthood [4, 9]. Smoking is initiated under influence of many factors that may encourage young person to do that. That can include such factors as curiosity, peer pressure, parental smoking, promotion of tobacco products which forms positive and misleading image of smoker as sexually attractive, sociable, self confident personality and may lead to perception of smoking by teenagers as “cool” and beneficial behavior. Studies show, that many youths who begin smoking do not fully understand the nature of addiction or underestimates it, and as a result they believe that they will be able to avoid hazardous health consequences by quitting smoking after few years [45] and consequence of that very often is the development of lifelong smoker.

The impact of smoking is not just a question of length of life. Smokers suffer more diseases and disability before they die, at younger age. This affects not only smokers’ and their families. It does influence and is a burden for a whole society (for instance, burden for health sector as it increases expenses for health care dramatically). If the rates of quitting were increased and the numbers of those who initiate smoking decreased millions of lives would be saved in the future – this is a short answer to what are the benefits of smoking cessation and importance of not initiating smoking. If many of the adults who now smoke were to give up over the next decade or two, thus halving global cigarette consumption per adult by the year 2020, this would prevent about 1/3 of tobacco related deaths in 2020 and would almost halve tobacco related deaths in the second quarter of the century. Such changes would avoid about 20 or 30 million tobacco related deaths in the first quarter of the century and would avoid about 100 or 150 million in the second quarter. If by progressive reduction over the next decade or two in the global uptake rate of smoking by young people, the proportion of young adults who become smokers were to be halved by 2020, this would avoid hundreds of million deaths from tobacco by 2050 [5].

Taking into account all previously mentioned facts and predictions, benefits of smoking cessation are obvious and well proved. It reduces mortality risks even amongst long-
term smokers [47]. Quitting smoking reduces the risk of cancer and the earlier person gives up smoking the more the risk of cancer is reduced [47]. Former smokers live longer than those who continue to smoke. Decline in mortality rates occurs straight after smoking cessation [6]. 20 minutes after having last cigarette heart rate drops to a normal level, in 2-3 weeks heart attack risk begins to drop and lung function improves. Risk of coronary heart disease halves after one year compared to those who continued smoking. Stroke risk is reduced to that of a non-smoker 5-15 years after quitting as well as risk of cancers – oesophagus, mouth and throat decreases. And after 15 years of abstinence risk of coronary heart disease and other causes of mortality is the same as for never smokers [48]. Not to forget the benefits – improvement of skin appearance and fitness as well as saved money.

However, the rate of success in unaided quit attempts is low, especially for those who are highly addicted. Pharmacotherapy is one of the measures that can help smoker to quit and prevent relapse. But it should not be considered as stand alone treatment and comprehensive approach to quit smoking should be taken [47]. Nicotine replacement therapy, which includes the transdermal patch, gum, inhaler, lozenge and sublingual tablet, increases quit rates at five to twelve months approximately two-fold compared with placebo and regardless of the setting [49].

3.6. Tobacco control and young people

Needless, to say that tobacco epidemic is fully preventable and man-made and we should stop growing generations of smokers by taking adequate measures. Smoking among adults has declined in the recent years, however it has increased among adolescents [34] and sadly the age at initiation has reduced throughout the world as well [4]. Tobacco industry targets young people to assure their future by using various strategies and methods to increase the uptake of smoking as much as possible. As emphasized in WHO Framework Convention of tobacco control, article 22, cooperation in the scientific, technical, and legal fields and provision of related expertise, interventions against ETS exposure should be part of national plans for tobacco control. These plans should include legislation, health education, and communication, with the following goals: to prevent children from becoming addicted to tobacco; to implement effective cessation programs; to progressively eliminate tobacco
advertising; to enact financial measures to discourage tobacco consumption; and to reduce exposure to ETS in homes [53].

As youths are the most effective group to target for smoking prevention programs, it makes youths particularly interesting to public policy makers and economists [50]. Currently, the only scientifically proven way to address tobacco or addiction is to prevent or at least initiation, achieve cessation among users and prevent relapse by former users [51, 52]. However, tobacco prevention and particularly prevention of tobacco use among youths is not an easy task as it may look like. Work with young people is complex and lots things and factors need to be considered to make it work. No longer are young people simply prepared to accept parental or institutional directives such as “smoking is wrong” and instead critical appraisal appears of such moral judgment, such as “if it is wrong, why do adults smoke?” [49]. Speaking shortly, it is still not clear and there is no rule what really works and brings significant changes in youths uptake of smoking and maintenance of behavior, either its strict non-smoking policies at schools, punishments for those caught smoking, health education, peer oriented interventions and so on [58], which has to be taken into serious consideration. Review of literature gives many contradictory facts and disappointingly, gives an impression that higher proportion programs and measures does not really affect young ones, or affects just a little. Therefore, new approaches to work with youths need to be developed or old ones have to be altered.

To start a short review of youth tobacco control and to make a picture of it less dark and gloomy, there must be mentioned, that to discourage smoking among teenagers numerous anti-smoking policies were adopted, which did give some good results. The most significant are increase of taxes for tobacco products, smoke-free indoor air laws as well as laws restricting access of minors to tobacco products, requirements for warning labels on tobacco products and so on [44]. As an example, lets take the increase of price of tobacco product and influence of it on consumption and explain how it works a little bit more detailed. Lets see an example: in the United States (high-income) a price rise of 10% for a pack of cigarettes decreases demand by about 4% (an elasticity of -0.4), in China or Brazil or South Africa (low-income countries) the same case leads to elasticity range between about -0.6 and -1.0. One of the reason why it works better in low or middle income countries is that structure of population is much younger compared to developed countries. According to the results of researches, young people are more price-responsive than older people (partly because they
have lower disposable incomes, partly because some may be less heavily addicted to nicotine, partly because of their more present-oriented behavior, and partly because they are more susceptible to peer influences). If one young person stops smoking because of financial reasons, peers tend to follow him than amongst older age groups. Researchers conclude that when prices are high, not only are the existing young smokers more likely to quit, but that fewer potential young smokers will take up the habit [59].

Let’s come back to other important part of tobacco prevention to which all this paper is linked to - health education. According to WHO health education is essential for sustained progress in tobacco control [53]. The health promoting schools movement is a global one and provides an opportunity to influence positively the health of a target group of a target group of unquestionable importance in our society: our children [37]. However, literature suggests vast of different opinions, findings, conclusions and there is no single answer how effective it really is. The fact is that we have to make it work and find the most effective and way to make significant changes.

To start with, the most recent evolution stresses the importance of addressing both individuals and their environments to achieve lasting behavior change. Obviously, schools are places where adolescents spend most of their day as most of them normally attend school. Here they develop sustained attitudes towards smoking [34]. School-based tobacco education is one part of comprehensive approach to youth tobacco prevention activities that can help to decrease youth tobacco prevalence or at least delay tobacco initiation. Education programs that focus on skills training approaches have proven effective in reducing the onset of smoking according to numerous independent studies [56]. For example, school-based intervention “Tar wars” carried out in America, have brought up a significant improvement in knowledge about tobacco related issues [54]. Several studies have showed that such interventions help to reduce smoking prevalence for up to 5 years after program completion [54,55]. On the other hand, other studies shows that increase of knowledge about tobacco and its related issues, does not necessarily has an impact on smoking behavior [58]. Additionally, there are some barriers as well, for instance, tobacco education may not be seen as high priority by school staff [60], or already high work load for them and even children. Therefore, it is important to find ways to engage community, which is discussed further.

Community engagement, which is a cornerstone of effective public health practice, is also very important in tobacco control. It helps to built skills and capacity within the
community, which are crucial factors in achieving better health. Individual approaches often fail because they do not reach certain population groups, in contrary community-wide approaches afford the opportunity to reach a much larger number of population at risk. A community can be described as a specific group of people usually living in a defined geographical area who share a common culture, are arranged in a social structure, and exhibit some awareness of their identity as a group [37]. One of the ways how to engage community in tobacco control which is also closely linked to school education - peer-to-peer education programs, which are common means of addressing youth. Peer education is one of the most effective and empowering methods of working with young people across the range of issues [57]. One of the reasons is that peer-to-peer as a method for sharing information and knowledge has shown to be very effective as young people are more likely to listen to people like them and it is a basic characteristic of humans as social beings [57]. Peer educators are people belonging to a group from a specific environment, such as school, work place, the army, prison, youth or sport clubs, gang or neighborhood, who are trained to educate members of the same group [57]. Peer advocates are useful not only because they are able to reach peers that are perceived hardly reachable, but also because they are able to convert dry information into useful knowledge as they share an ability to understand the context in which their peers are. They speak the same language and know their live situations. Information that is provided in this proper context becomes knowledge [57]. Study where students where employed as co-researchers to speak with adolescents and gather more information about adolescent smoking indicated some of youth thoughts about smoking prevention. Interestingly, students indicated that friends should speak to their friends about smoking, although many of them mentioned that they were unsure of what to say or if there words can do any influence [34]. Again, other studies show opposite results that peer support programs, designed to prevent tobacco use does not have an effect on knowledge, attitudes or behavior [61]. In addition, there are differences between formal peer-based programs and peer relationships that occur naturally [58]. Moreover, some studies suggest that pupils smoke at schools rather as a result of poorly enforced non-smoking policy there [62], which is another wide topic.

Other prevention strategies may include sanctions imposed on students caught smoking and provision of smoke-free environment with non-smokers adult role models. Here the role of non-smoking models – members of staff is important as it can also influence students
smoking behavior and arouses other questionable issues, such as smoking room for staff and so on [58].

To conclude, taking into account all unfavorable results reviewed in the literature, there is a consensus, that programs to prevent tobacco abuse among youths need to be incorporated into a comprehensive tobacco control initiatives including community-wide ones [58]. The certain thing is that we cannot expect a single method to work just by itself in preventing adolescents from tobacco use. For instance, providing completely smoke free environment and constant health messages are more likely to bring changes than any of policies implemented loosely. Moreover, requires devotion and strong partnership starting from national level, communities and finishing by common person in society. Only then we can expect a comprehensive and sustainable tobacco control and win more battles and maybe one day a war.
4. RESEARCH METHODOLOGY

4.1. Targeted population and research plan

Few methods were utilized in this work: literature review, analysis of documents, baseline and follow up surveys and the analysis of collected data.

Literature review was conducted to collect available data to delineate known disparities along the tobacco disease continuum, including data on second hand smoke or ETS, tobacco use initiation, current use, number of cigarettes smoked per day, quitting and tobacco-related cancer morbidity and mortality as well as to examine the worldwide experience and practice to get a better understanding of work with communities to prevent smoking. The scientific literature was searched by using PubMed and examined major scientific reports such as Reports of Surgeon General, National Cancer Institute monographs, WHO data and morbidity and mortality reports.

The usage of baseline and follow up surveys and analysis of data collected is going to be explained further in this section.

Description of pilot interventions: peer-to-peer

Research was done as a part of the evaluation of the project “Working with Communities to Reduce Health Inequalities: Protecting Children and Young People from Tobacco” that was funded by Liverpool Primary Care Trust and which primary objective was to develop effective methods of engaging local communities and “peer groups” to bring lifestyle changes that generate positive health outcomes and reduce health inequalities. It targeted children and young people from socially excluded and disadvantaged communities that have poor health indicators.

This project incorporated two types of interventions: Peer-to-peer and Community engagement (to protect children from second hand smoke). Peer-to-peer interventions were delivered in following countries: France, Latvia and UK (Liverpool) and were evaluated by cluster partners from Lithuania, Czech Republic and Poland. This study is only focused on peer-to-peer interventions that were delivered in school settings in two participating cities in
Europe – Liverpool (United Kingdom) and Riga (Latvia). Therefore, further description of Community engagement interventions to protect children from second hand smoke will not be provided in this paper.

Schools that were selected to participate in the project were located areas that are considered to be more socially deprived, where more of the pupils had lower socio-economic status, were from single parent or immigrant families or were exposed to other factors that place them in less advantaged position. Initial aim of pilots was to train 15-20 young people, aged 11-15 years old to raise awareness to 500 children, in the same range, about smoking and second-hand smoke. Peer advocates were selected and trained to engage with their peers to influence their attitudes to smoking, raise awareness of the dangers of smoking and exposure to second-hand smoke, encourage non-smokers not to start smoking and current smokers to quit, challenge positive images of smoking. Most of the peer advocates were volunteers and were selected by project workers regarding personality (authority and leadership), smoking status (non-smoker – preference) and age (had to be older than beneficiaries). Peer advocates received training regarding previously mentioned tobacco control issues as well as they were taught how deliver oral presentation, how to discuss and how to manage class. Approximately 10 % did not finish training because of few reasons, such as fear to speak in front of the class, lack of time (other occupations, exams and etc.) and other. A total number of 34 advocates participated in 4 schools in Liverpool, 10 to 14 in each of 7 schools in Riga (two schools were not included in the study) which exceeded the initial expectations of the project. After training, 2-3 advocates in each class delivered two 45-50 min lessons to their peers. During their performance one of the teachers, nurses or project workers were present in class to provide them support.

To assess active and passive smoking prevalence and to evaluate knowledge and attitudes about active and passive smoking of pupils in secondary schools of Riga and Liverpool before intervention and to examine changes after intervention, baseline and follow up survey was conducted pre and post intervention. Questionnaire was piloted before administrating it. It was well received and questions were understandable for pupils. Answer sheets were sent to Center of Disease Control (CDC) in USA for data entry.

It took approximately 30-45 minutes to administrate the questionnaires.

Where results regarding children knowledge and behavior were compared between countries, same age group 11-13 data was analyzed in Riga and Liverpool. Data of pupils of all ages were processed when analyzing and comparing results within countries.
Survey tool

Survey tool was a questionnaire, which comprised a series of closed questions to address the research objectives. Most of the questions used have been drawn from the validated, extensively applied and WHO recognized Global Youth Tobacco Survey (GYTS). Questionnaire included general questions such as gender, age and grade. It also generated quantitative evidence of these major dimensions: levels of awareness of dangers of smoking, levels of awareness of second-hand smoke, attempts to quit, attitudes to smoking, smoking prevalence, smoking in front of other children and young people. Survey helped to gather information about the awareness of smoking risks and dangers, benefits of smoking cessation and not starting to smoke, quit smoking aids and support availability as well as about their perceptions of the extent that second-hand smoke is harmful to themselves and others (including specific types of people like babies, pregnant woman). Information about the intentions to quit, history of smokers quit attempts, success and relapse was also collected. Questionnaire sought information about young people’s perceptions of the popularity of those who smoke, whether smoking is harmful and influence of friends on smoking behavior. In addition to pupils smoking prevalence, questionnaire sought information about the smoking habits of those closest to them – parents or guardians and friends. Moreover, the information about specific aspects of pupils smoking history, such as age of smoking initiation was collected. The questions to find out the extent that young people are exposed to second hand smoke indoors, at home as well as their exposure to smokers’ images on TV and movies were included.

4.2. Riga

Participating Schools

Five schools were recruited in Riga:
1. Riga 19 secondary school
2. Riga 69 secondary school
3. Riga 94 secondary school
4. Riga Jāņa Poruka secondary school
5. Riga Teika secondary school
Riga 19 secondary school (383 pupils)

It is the only Latvian school in Bolderāja. The school faces discipline and substance abuse problems. Bolderāja is not considered as “prestige” region, because most of the inhabitants belong to low-income families and are blue-collar workers.

Riga 69 secondary school (479 pupils)

This school is the only Latvian school in Zolitūde. Approximately 5% of pupils are from children’s home. This region is known as Russian speaking, although there is no information about the exact number of Russian and Latvian speaking inhabitants.

Riga 94 secondary school (513 pupils)

This school is the only Latvian school in Ziepniekkalns.

Riga Jāņa Poruka secondary school (350 pupils)

This school is located in Northern suburb of Riga called Čiekurkalns. About 5% of pupils of this school are from children’s home which is located in a close distance from the school. 25% of pupil population is from low-income, socially disadvantaged and single parent families. Many of the parents are unemployed or are looking for a job in abroad.

Riga Teika secondary school (962 pupils)

Riga Teika secondary school is known as health promoting school and has taken part in a lot health promotion projects. The school psychological environment is a strong protective factor of youth substance abuse prevention, however this schools is not considered as prestigious one.
Riga Baseline and follow-up study

Baseline study in Riga schools was conducted in September 2009. There were 506 participants (573 sampled). 51% of surveyed population was boys (n=258) and 49% girls (n=247). Questionnaire consisted of 33 questions in total. 21.1% were from year 5 (n=110), 22.2% year 6 (n=116), 26.5% year 7 (n=137) and 30.2% year 8 (n=143).

Table 1. Baseline survey Riga: distribution by gender and age.

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>14.1 %</td>
<td>24.6 %</td>
<td>24 %</td>
<td>26.9 %</td>
<td>8.8 %</td>
<td>0.2 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 37)</td>
<td>(n = 66)</td>
<td>(n = 63)</td>
<td>(n = 67)</td>
<td>(n = 24)</td>
<td>(n = 1)</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>18.9 %</td>
<td>27.5 %</td>
<td>22.3 %</td>
<td>28.2 %</td>
<td>2.0 %</td>
<td>0.2 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 48)</td>
<td>(n = 71)</td>
<td>(n = 56)</td>
<td>(n = 65)</td>
<td>(n = 6)</td>
<td>(n = 1)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16.4 %</td>
<td>26 %</td>
<td>23.3 %</td>
<td>27.5 %</td>
<td>5.7 %</td>
<td>0.4 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 85)</td>
<td>(n = 137)</td>
<td>(n = 120)</td>
<td>(n = 132)</td>
<td>(n = 30)</td>
<td>(n = 2)</td>
</tr>
</tbody>
</table>

Follow-up study was conducted in January 2010. There were 425 participants (524 sampled). The distribution by gender was very similar, where 50.5% (n=215) of surveyed population was males and 49.5% (n=210) females. This questionnaire consisted of 36 questions (added 3 peer questions). It took approximately 30 minutes for children to complete the questionnaire. Distribution by grade was as it follows: 24.3% year 5 (n=105), 22.2% year 6 (n=98), 25.6% year 7 (n=109) and 27.9% year 8 (n=112).

Table 2. Follow up survey Riga: distribution by gender and age.

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>10.8 %</td>
<td>24.1 %</td>
<td>21.6 %</td>
<td>31.4 %</td>
<td>8.1 %</td>
<td>2.5 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 23)</td>
<td>(n = 53)</td>
<td>(n = 47)</td>
<td>(n = 63)</td>
<td>(n = 21)</td>
<td>(n = 5)</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>17.9 %</td>
<td>28.8 %</td>
<td>21.8 %</td>
<td>26.2 %</td>
<td>3.1 %</td>
<td>1.3 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 38)</td>
<td>(n = 62)</td>
<td>(n = 46)</td>
<td>(n = 53)</td>
<td>(n = 9)</td>
<td>(n = 2)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14.7 %</td>
<td>26.5 %</td>
<td>21.5 %</td>
<td>28.5 %</td>
<td>6.9 %</td>
<td>1.9 %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(n = 63)</td>
<td>(n = 116)</td>
<td>(n = 93)</td>
<td>(n = 116)</td>
<td>(n = 30)</td>
<td>(n = 7)</td>
</tr>
</tbody>
</table>
4.3. Liverpool

Participating schools

Schools that were selected for the project are located in different areas of Liverpool. Pupils in those schools had a mixed background – those from wealthier families and deprived students in each school.

Four Liverpool schools were recruited in pilot intervention:

1. St Benedicts College
2. Broadgreen International School
3. Alsop High School
4. Arch Bishop Beck College

Liverpool Baseline and follow-up study

Baseline survey in Liverpool was conducted in a year 2009. There were 435 participants (sampled 543). 61.3 % of surveyed population was boys and 38.7 % girls. Questionnaire consisted of 33 questions in total. Most of the surveyed population was from grade 8 – 92 % (n=372), the rest of it was from 6 and 7 grades.

Table 3. Baseline survey Liverpool: distribution of respondents by age and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Boys</td>
<td>7.3 % (n = 14)</td>
<td>56.9 % (n = 139)</td>
<td>34.9 % (n = 87)</td>
<td>0.9 % (n = 2)</td>
</tr>
<tr>
<td>Girls</td>
<td>2.9 % (n = 4)</td>
<td>60.7 % (n = 91)</td>
<td>34.4 % (n = 53)</td>
<td>2 % (n = 3)</td>
</tr>
<tr>
<td>Total</td>
<td>5.9 % (n = 20)</td>
<td>57.6 % (n = 232)</td>
<td>35.1 % (n = 144)</td>
<td>1.3 % (n = 5)</td>
</tr>
</tbody>
</table>
Follow-up study was conducted in January 2010. There were 401 participants (459 sampled). 61.8 % was males and 38.2 % females. This questionnaire consisted of 36 questions. It took approximately 30 minutes for children to complete the questionnaire. Distribution by grade during follow up survey was very similar to baseline survey where 94.4 % were from grade 8 and the rest of respondents were from grades 6 and 7.

Table 4. Follow up survey Liverpool: Distribution of respondents by age and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>3.9 % (n = 7)</td>
<td>22.7 % (n = 45)</td>
<td>73.4 % (n = 161)</td>
<td>-</td>
</tr>
<tr>
<td>Girls</td>
<td>5.2 % (n = 7)</td>
<td>30.1 % (n = 39)</td>
<td>64.0% (n = 85)</td>
<td>0.7 % (n = 1)</td>
</tr>
<tr>
<td>Total</td>
<td>4.6 % (n = 15)</td>
<td>25.2 % (n = 85)</td>
<td>69.9 % (n = 252)</td>
<td>0.3 % (n = 1)</td>
</tr>
</tbody>
</table>

4.4. Statistical analysis

Microsoft Excel program was used to process research data. Statistical Package for the Social Science (SPSS) 15.0 for Windows was utilized to conduct statistical data analysis. The statistical significance of the data in question, has been tested by using the chi-square ($\chi^2$) and $Z$ statistical criteria. The statistical conclusion was considered to be reliable when $p < 0.05$. 
5. RESEARCH FINDINGS AND DISCUSSION

5.1. Baseline survey

5.1.1 Smoking prevalence

Active smoking

There is no safe limit or number of cigarettes known that one can smoke without becoming a long-term smoker. Experimenting with cigarettes from curiosity or peer influence is the major way of becoming a smoker. Such “games” are high at risk of becoming a lifelong lethal habit as one cigarette can lead to development of addiction. Approximately, 80% of recent smokers had begun to smoke before they reached adulthood [4, 9, 35]. According to the Global Youth Tobacco Survey the highest prevalence of early initiation of smoking is in China, Poland and Zimbabwe, where nearly one of the students who ever smoked cigarettes started smoking before the age of 10 years [63]. In Ukraine, Poland and Russian Federation approximately 70% of students aged 13-15 years have smoked cigarettes. In Australia, more than 90% current smokers began to use tobacco when they were teenagers [10]. Sadly, nowadays, around the world there is a tendency to initiate smoking at younger age [35]. In 1991 in United States 14,3% of 8th graders were current smokers compared to 17.5% in 1999 and same years 10th graders rates were 20.8% and 25.7% [35]. Meanwhile, studies in UK in 2000 showed that there was a fall in the proportion of teenagers smoking regularly. Same study also reported that by the age 15, 68% have tried to smoke and 23% smoked regularly [64].

Therefore, not accidently question about initiation of smoking was included in survey. Baseline data collected in Riga shows, that from all population (all age groups) 64.9% of pupils have tried or experimented with cigarettes including one or two puffs (n=319) and only 35.1% (n=178) indicated that they did not (Chart 1). 62% of girls and 66% boys answered this question positively (z=0,91; p>0,05).
Chart 1. Ever tried or experimented with cigarette smoking, even one or two puffs 11-13 years old pupil distribution by cities

In Liverpool these percentages were almost reverse, as majority 77 % of pupils (n=332) indicated that they had never tried to smoke or experiment with cigarettes, and 23 % marked that they did. Interestingly, higher percentage of girls (28%) stated that they had tried smoking, compared to boys (18%). Difference by gender was statistically significant ($\chi^2 = 5.283; p=0.02$)

In the same age group 11-13 years old pupils the prevalence of those who tried smoking still was more than twice higher in Riga 57%, (51% males and 46% girls ($z=0.09; p>0.05$) compared with 23% in Liverpool. Differences between pupils from Riga and Liverpool who had ever tried smoking were statistically significant ($z=5.86; p<0.05$).

When asked about the age when they first tried to smoke, the highest incidence was 10 or 11 years old – 19.6 % in Riga and 8.1 % among Liverpool pupils. 15.9 % of pupils in Latvia have indicated that they first tried cigarettes when they were 12 – 13 years old, 12.5 % 8-9 old and 8.4 % 7 years or younger. Accordingly, among Liverpool students this percentage was 6.1 %, 4.2 % and 1.9 %.

Pupils were also asked how many days they smoked during last 30 days, which helps to determine their current smoking status. Pupils who did not smoke everyday were still considered as smokers. Therefore, as table bellow illustrates 15% of 11-13 years olds in Riga and 8% of same age pupils in Liverpool schools can be considered as current smokers. From which 3% of respondents in Riga reported smoking regularly – everyday, in comparison only 1% pupils in Liverpool stated the same (see table 5).
Table 5. Number of days when pupils smoked cigarettes during the past 30 days

<table>
<thead>
<tr>
<th>Days</th>
<th>0</th>
<th>1 to 2</th>
<th>3 to 5</th>
<th>6 to 9</th>
<th>10 to 19</th>
<th>20 to 29</th>
<th>Everyday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvia pupils (11-15 years old)</td>
<td>77 %</td>
<td>7 %</td>
<td>3 %</td>
<td>3 %</td>
<td>2 %</td>
<td>3 %</td>
<td>7 %</td>
</tr>
<tr>
<td>Latvia pupils (11-13 years old)</td>
<td>85%</td>
<td>6%</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>UK pupils (11-13 years old)</td>
<td>92 %</td>
<td>3 %</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

In Riga in 11-13 years olds population higher smoking prevalence was among boys 19%, than girls 12% (z=2,04; p<0,05). From which, accordingly 5% and 2% smoked everyday (z=1,59; p<0,05). From those who indicated smoking during last 30 days 0,6% stated that on those days when they smoked had more than 20 cigarettes per day, almost 1,2% 11 to 20 cigarettes per day, 0,3 % 6 to 10, 4,8% 2-5 cigarettes per day among Latvian pupils.

In Liverpool these percentages also varied by gender ($\chi^2=13,186; p=0,04$). 4.8% of boys and 12.5% of girls (p<0,05) reported smoking during last 30 days, from which accordingly 0.4% and 2.8% smoked daily (p<0,05). Only 0.3 % participants in Liverpool schools smoked more than 20 cigarettes per day, 3.2 % 2 to 5, 1.2 % 6 to 10.

In Riga in all surveyed population (11-15 years old) smoking during last 30 days differed significantly by gender ($\chi^2=13,063, p=0,04$). 20% of girls and 25% boys smoked during last 30 days, from which, accordingly 3.8% and 8.5% smoked everyday (p<0,05). From those who indicated smoking during last 30 days 1.5 % stated that on those days when they smoked had more than 20 cigarettes per day, almost 2 % 11 to 20 cigarettes per day, 2.7 % 6 to 10, 7.2% 2-5 cigarettes per day among Latvian pupils.

In a year 2007, 32.9% of youths aged 13-15 smoked at least one day during the month preceding survey in Latvia according to Centers for Disease Control and prevention, from which 36.3% were boys and 30.2% were girls. Moreover, same year 55.1% 13-15 years old youths reported passive smoking at home during last week [29]. As we can see, smoking prevalence, estimated during this survey was lower by almost 10%. However, that could be influenced by the age of the pupils.
One of the latest problems is popularity water pipe smoking. There is a tendency not to perceive it as a health hazard. Therefore, question to find out the rates of water pipe smoking was also included in survey. 19% of population aged 11-15 in Riga reported water pipe smoking during last month, from which 10.2 % pupils (n= 51) smoked water pipe 1 – 2 days during past 30 days, 4.2 % (n=21) 3 to 5 days and 2,1 % 10 to 19 days. Among 11-13 years olds water pipe smoking prevalence was a little bit lower – 12%. Meanwhile, in Liverpool only 2% of respondents reported water pipe smoking. Only 0.7% (n=3) of pupils indicated water pipe smoking during last month - 1 or 2 days which was the highest percentage of all. Relation between parental smoking and water pipe smoking among pupils in Latvia was statistically significant ($\chi^2 = 46,520, p=0,004$). 32% of pupils who indicated that their both parent were smokers, smoked water pipe during last 30 days from 1 day to everyday, compared to 11,5% of those whose none of the parents smoked ($p<0,05$). More over none of these children (with parents non-smokers) smoked water pipe more than 19 days per last 30 days. Statistically significant relationship between parental smoking and children water pipe smoking in among pupils in Liverpool was not noticed.

**Passive smoking**

Not that long ago, the perception that tobacco smoke from others or in other words environmental tobacco smoke or passive smoking is not hazardous or less hazardous for ones health was widely spread. Now, it is very well documented and there is no doubt that it damages our health almost at the same level as active smoking. According to estimations, as it was previously mentioned in the literature review, in 2004 second-hand smoke have caused about 600 000 premature deaths from which 28% were among children. Of the 430 000 adult deaths, about 64% were among women [22]. In UK it causes at least 10,000 deaths a year [65]. Exposure to ETS increases the risk for lung cancer and respiratory infections among nonsmokers and may inhibit the development of optimal lung function among children of smokers [15]. However, despite of all facts, the mistaken perception about passive smoking being less harmful for health still remains quite popular and a lot of children are still constantly exposed to ETS as well as woman, including pregnant. Children living in households where smoking occurs indoors are particularly vulnerable. According to WHO, half of the world’s children are breathing air polluted by SHS. This has serious health and equity implications. Exposure to passive smoking varies regarding socioeconomic status. For instance, in Britain: 41% of children with lower socioeconomic status were passively smoking
everyday, compared to 21% of children with higher socioeconomic status [40]. One of the British studies revealed that children who live in households where both parents smoke have 72% higher risk of respiratory diseases. In addition to that, constant passive smoking in childhood is a great concern not only because it causes and worsens diseases, but also increases risk that these children will become smokers in the future. That can be explained through the development of higher tolerance for tobacco smoke, which makes the first cigarette less disgusting [66, 67]. Moreover, smoking by parents may be a signal to youth that smoking is a socially acceptable habit, which can also lead to smoking initiation and addiction [35]. Talking about tobacco control legislation and passive smoking, the worldwide spread implementation of smoking bans in public places is a good example of successful tobacco control measure, which reduced levels of exposure to ETS. However, reductions in domestic environmental tobacco smoke exposure have proved to be more difficult to achieve than in many public places, partly because the domestic environment is considered inappropriate for regulatory intervention and also because of the belief that smoking is an individual choice that can rightly be exercised in the private domain [68]. Studies show that social pressure can contribute significantly to low levels of support for ETS control measures in private premises. For instance, even non-smoker people might not want to offend other family members, relatives or friends by asking them not to smoke in their home [69]. Vehicles - another common space were passive smoking occurs. Studies show, that common ETS can reach relatively high concentration levels in an automobile, which makes it even more hazardous [70]. Exposure to ETS among children at home is associated with parental smoking, which means that if parents or guardians smoke it is very likely that smoking is present at home if front of children. For example, in UK, in 1988, it was estimated that 42% of children and 21% of non-smoking adults lived in a household where at least one person smoked [71]. Given that smoking prevalence among adults in many other countries are higher than they are in the UK, this could result in a potentially high prevalence of exposure to tobacco smoke among children [72]. It was estimated that 44% children were exposed to environmental tobacco smoke at home in Lithuania [73]. However, exposure to tobacco smoke has decreased in some countries over recent years. For instance, a study from Finland found that exposure to tobacco smoke at work decreased from approximately 20% in 1985 to approximately 6% in 2000 [5]. A study in England found that exposure to passive smoking among children approximately halved from 1988 to 1998 [74].

During survey a lot of attention was drawn to passive smoking including pupil attitudes and knowledge about it, extent of passive smoking at home as well as parental/guardian
smoking. As it was previously discussed, passive smoking by children and smoking by their parents has a resilient connection. Baseline survey data had shown that in half of the children families at least one of the parents was a smoker – 54% in Latvia and 50% in Liverpool, from which, accordingly 23% and 20% both parents smoke. Interestingly, more mothers (37%) than fathers (33%) smoke in Liverpool according to their children (p>0.05). This research had witnessed the increase of smoking amongst woman, which is now a tendency in developed countries as the higher smoking prevalence amongst females was also present among girls in Liverpool schools. According to pupils in Riga 44% of fathers and 31% of mothers smoked.

![Chart 2. Distribution by cities: Smoking by parents/guardians](image)

As experience from one of the studies had shown, smokers (62.9%) are less more likely to make their home with children smoke free compared to nonsmokers (94.8%), although 89.5% of smokers know that passive smoking is hazardous to children and babies [75]. Data from baseline survey from schools in both participating cities have showed the resilient relationship between parental smoking and passive smoking in children. Chart 3 given below illustrates that very well. 50% of children in Riga and 56% in Liverpool schools have stated that during the last 7 days at home no one was smoking in their presence. One fifth (accordingly 22 % and 19 %) of pupils indicated that all 7 days of last week somebody was smoking in their presence at home. The rest of the respondents stated that during last week in there presence has been smoked from 1 to 6 days. Differences, in rates of ETS at home and parental smoking were statistically significant, in both cities: Riga ($\chi^2=130,484; p<0.001$) and
Liverpool ($\chi^2=121.51; p<0.001$). Which leads to conclusion, that half of the children in Riga and 44% in Liverpool are being exposed to environmental tobacco smoke at least once a week.

![Chart 3. Distribution by cities: Smoking in pupils homes in their presence (during last 7 days)](image)

40% of pupils Liverpool and 48% of pupils in Riga who indicated that both of their parents smoke have reported daily ETS exposure during all 7 days of last week compared to those whose none of the parents were smokers 6% ($z=6.12; p<0.05$) and 4% ($z=8.9; p<0.05$). Interestingly, in both countries those children who reported only maternal smoking were more likely to be exposed to ETS everyday. 30% Liverpool and 36% Riga than those who marked that only father was a smoker in family, accordingly 18% and 23%. However, these differences were not significant statistically ($p>0.05$). That can probably be explained that woman spend more time with their children.

Passive smoking itself is a health hazard, but another concern when it comes to youths is the influence of parental smoking on their attitudes towards smoking, that consequently place them into higher risk of becoming smokers. One study has showed that adolescents who lived in smoke free households were 74% as likely to be smokers compared to adolescents who lived in households with smoking restrictions [35]. Non-smoking at home is associated with lower likelihood of trying smoking [35]. A qualitative study where students were employed to talk with their peers had showed that young ones think that parents are important especially when talking about smoking initiation. As some of their reflections were: “It has to
start at your house, to have parents, that provide that background to say no” [34]. Relationship between current smoking status of pupils and passive smoking at home was noticed in Liverpool ($\chi^2=40,928; p=0,017$). Data shows that 58% of non-smokers were never exposed to ETS during last week compared to 41% smokers ($z=1,87; p>0,05$). Parental smoking was also related to current smoking of their children in Liverpool ($\chi^2=37,802; p=0,036$). Almost 80% of current smokers had at least one parent who smokes, compared to 47% of non-smokers ($z=4,38; p<0,05$). Data collected in Riga schools shows similar relationship between parental smoking and current smoking status of pupils ($\chi^2=44,270; p=0,007$). 67% of smokers had at least one parent smoker compared to 49% of those who do not smoke ($z=3,46; p<0,05$). Moreover, similarly as in Liverpool, passive smoking at home was related to smoking in children ($\chi^2=78,020; p<0,001$) in Riga. 77% of current smokers reported passive smoking at home during last 7 days, in comparison to 43% of non-smokers ($z=7,11; p<0,05$).

5.1.2. Knowledge and attitudes

Factors that can influence pupil knowledge, attitudes and awareness about smoking and related issues

Family

The very first and major teachers in our lives are parents or guardians. We learn from them and most of the time we follow examples that are given to us. Harmful effect of smoking is one of the topics that parents could, should and do discuss with their children. Such discussions could influence views and attitudes towards smoking or maybe even influence their smoking behavior. Respondents were asked if somebody in their families discussed the harmful effects of smoking. Distribution of answers is illustrated bellow in chart (see chart 4). As it is shown in the chart more parents in Riga (79%) than in Liverpool (65%) have discussed smoking problem with their children. However, smoking prevalence among pupils in Riga as it was shown by this research was much higher than in among pupils in Liverpool. Current smoking prevalence and distribution of “ever smokers” was not significantly different comparing those who discussed smoking at home and those who did not in both cities ($p>0,05$).
Chart 4. Has anyone in your family discussed the harmful effects of smoking with you?

As it was previously discussed smoking prevalence amongst parents was slightly higher in Riga. Even though significant differences were not found, such distribution of answers could be one more example that example of parents does play a huge role or in other words: if smoking is bad why adults smoke? Percentages of those parents who discussed harmful effects of smoking with their children did not vary significantly regarding their smoking status in both countries: Riga (z=0.29; p>0.05) and Liverpool (z=0.36; p>0.05).

School

School is the environment where children spend most of their time during the most crucial period in their lives. Health education according to WHO is crucial for sustained progress in tobacco control. One study have showed, that 90.2% of surveyed children believed that instruction about smoking damage should be included starting from the first grade of elementary school, and certainly, it should be at the level which will be understandable for them. Same study showed that the pupils' knowledge about the consequences of smoking was not sufficient. Pupils should be familiar with all aspects of negative consequences caused by cigarette smoking and such knowledge may have influence upon their attitude towards smoking and smokers [76].

To be the most effective health programs dedicated to prevention of addictive substances abuse has to be repeated year after year otherwise pupils forget about it, according to teachers from participating schools [77]. Moreover, information about such issues as
smoking has to be given for children on time, at appropriate age, not too late when children are already addicted.

Few questions regarding discussions about tobacco related issues at school were included in the survey. One of the questions was when did the last time when topic – smoking and health was discussed at school. Distribution by country is illustrated in the chart bellow (see chart 5).

![Chart 5. How long ago did you last discuss smoking and health in school?](image)

Small percentage of pupils in Liverpool 10% stated that they have never discussed this topic at school. That could probably be explained by not attending school on particular days when than it was discussed or the lack of attention. However, in Latvia almost one fith of the students indicated the same. Again, the reasons could be the similar as in Liverpool and in addition, the age of surveyed population in Liverpool was not the same. As most of the students in UK were from grade 8 (12-13 years old) (see table 3) and in Latvia pupils distributed by age more equally (see table 1) Statistically significant differences regarding age and time when smoking and health was discusses last time at school was found ($\chi^2=50,148; p<0,001$).

Moreover, few more questions were added in questionaire: “During this school year, were you taught in any of your classes about the dangers of smoking?” and “During this school year, did you discuss in any of your classes the reasons why people smoke?”. As we can see in a table 6 more than a half of the pupils in Riga were not taught in any of the classes about the dangers of smoking, compared to only 22% of pupils in Liverpool who indicated the same. Similar distribution was regarding the second question – 68% of students in Latvia and
this time a higher percentage of students in Liverpool – 48%, did not discuss in any of their classes the reasons of why young people smoke. Again such distribution by different countries could be explained by differed teaching schedules, different age distribution or even lack of attention or interest by children during lessons.

Table 6. Raising awareness and knowledge about smoking at schools during this school year

<table>
<thead>
<tr>
<th>City</th>
<th><strong>Answer option</strong></th>
<th>Yes, by/with teacher</th>
<th>Yes, by/with peer educator</th>
<th>Yes, by/with both teacher and peer educator</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>During this school year, were you taught in any of your classes about the dangers of smoking?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvian pupils</td>
<td>33%</td>
<td>4%</td>
<td>8%</td>
<td>54%</td>
<td></td>
</tr>
<tr>
<td>UK pupils</td>
<td>66%</td>
<td>2%</td>
<td>9%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td><strong>During this school year, did you discuss in any of your classes the reasons why people smoke?</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latvian pupils</td>
<td>15%</td>
<td>11%</td>
<td>6%</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>UK pupils</td>
<td>44%</td>
<td>4%</td>
<td>4%</td>
<td>48%</td>
<td></td>
</tr>
</tbody>
</table>

**Media: tobacco advertising**

WHO FCTC requires Parties to ban all forms of advertising, promotion and sponsorship by the tobacco industry. As at December 2008, only 26 WHO Member States had complete policies that had comprehensive bans on tobacco advertising, promotion and sponsorship. In order to make sure future market tobacco industry needs to replace those who die or quit by new young tobacco products users. As it was discussed previously, teenagers tend to perceive smokers as more mature or “cool”. Such attitude is kept well in mind by tobacco advertisers who not accidentally illustrate smoking as a proof of adulthood, maturity, popularity and attractiveness. Media is often characterized as being influential when it comes to youth initiation and perceptions of tobacco use. Recent studies prove that the more young people are exposed to tobacco advertising, the more likely they are to start smoking. Despite this, according to WHO, only 5% of the world’s population is covered by comprehensive bans on tobacco advertising, promotion and sponsorship. Advertisement of tobacco products is banned in EU countries, however images of smokers are still on TV, videos and films that can easily
be viewed by young ones by giving false smoking association with qualities such as glamour, energy and sex appeal. Actors in movies smoke, who can be a role models for young people. In 2001, National Youth Tobacco Survey have found that 88% of high school students saw actors using tobacco (CDC, 2001). In a WHO study of 13 to 15-year-olds in schools worldwide, more than 55% of students reported seeing advertisements for cigarettes on billboards in the previous month, while 20% owned an item with logo of a cigarette brand on it [78]. Film is the most influential medium among the young and there is strong evidence that seeing smoking in film encourages children to smoke [79]. One study have showed that non-smoking teenagers whose favourite films stars smoked on screen are up to 16 times more likely to view smoking favourably [80]. That is why producers and actors have been paid large sums to use tobacco in popular films, especially in those films that are very likely to be viewed by potential new smokers [79]. Another study reported that in 2000 there was more smoking in movies than in 1960s, featuring in 9 Hollywood movies of 10 [81].

All tobacco advertising and sponsorship on television has been banned within the European Union since 1991 under the Television Without Frontiers Directive (1989) This ban was extended by the Tobacco Advertising Directive, which took effect in July 2005 to cover other forms of media such as internet, print media, radio, and sports event like F1. In UK all television commercials for cigarettes were banned on 1 August 1965, although commercials for loose tobacco and cigars continued until 1991 [82]. Following implementation of the Tobacco Advertising and Promotion Act in the United Kingdom in 2003, which banned all tobacco advertising, the awareness of tobacco marketing among British children aged 11-16 declined, and susceptibility to beginning tobacco use was expected to follow suit [83]. Other studies show reductions in tobacco use, particularly among young people, following bans on advertisements [84]. A complete ban on tobacco advertising, promotion and sponsorship is a powerful tool to protect young people and curb the tobacco epidemic.

As we can see tobacco promotion is still a “painful” issue in tobacco control. Therefore, this survey also included a question in regards to children exposure to smokers’ images on TV, videos and movies. As it is seen in chart 6 bellow only minority of respondents indicated that they never see actors smoking on TV, videos and movies. More than a half (54%) of pupils in Riga stated that they see smoking on TV a lot, in comparison in Liverpool where 34% indicated the same (p<0,05). In addition, majority of pupils in Liverpool (56%) marked the answer option “sometimes” and again 42% of pupils in Latvia did the same.
*p<0.05 comparing by city

**Chart 6. Frequency of children exposure to images of smokers on TV, videos and movies**

Such differences can be explained by different legislation and tobacco control variations by country. In Riga, 69% of pupils those who reported that they see actors smoking on TV, videos and movies had ever tried smoking, compared to 62% of those who indicated that they never watch TV or never see images of smokers on shows (p>0.05). In Liverpool percentages of those who indicated that they see images of smokers on TV, videos and movies and those a lot or sometimes and of those who indicated they never see such images did not differ significantly in regards of smoking initiation (p>0.05). Moreover, significant differences regarding current smoking status and frequency of images of smokers seen on TV were not found in both cities (p>0.05).

**Active smoking**

“Smoking kills” – this statement is very well proved. The adverse health effects of smoking have been documented since 1950s, yet 1,1 billion people are current tobacco products consumers [85]. Smoking-related deaths include those resulting from cancers of the lung, esophagus, and pancreas, cardiovascular diseases, bronchitis, pneumonia, emphysema, sudden infant death syndrome, prematurity, and low birth weight, as well as deaths resulting from smoking-related burns [86]. Respondents were asked whether they thought smoking was harmful for their health or not. Majority of the sample of the same age pupils knew that smoking has adverse effect for health as they marked that answer options: “probably yes” and “definitely yes” - 92% Liverpool and 94% Riga (see chart 7).
Chart 7. Distribution by cities (11-13 years old): Do you think smoking is harmful for your health?

Of all surveyed population (11-15 years old) in Riga 95% of pupils with whom harmful effects of smoking was discussed at home knew that smoking is a health hazard and they were more definite about it (86% marked definitely and 9% probably yes) compared to those with whom smoking as health hazard was not discussed at home 89% (accordingly 76% and 14%) ($\chi^2$=8,889; p=0,03). 78% of 11-13 years old pupils with whom harmful effects of smoking was not discussed at home knew that smoking is definitely hazardous, in comparison to 88% with who it was discussed at home ($z$=1,86; p>0,05). Such significant differences between pupils knowledge and discussions at home among pupils in Liverpool were not found (p>0,05). Percentages of girls (94% Liverpool and 95% Riga) who thought that smoking is harmful for health was a little bit higher in the same age group in both countries compared to boys (Respectively 91,5% and 93%) (p>0,05). Considering current smoking status and pupils perceptions as smoking hazard for their health significant differences were noticed in Riga were pupil answers varied according to their smoking status: those who smoke were less likely to think that smoking is a health hazard of were less definite ($\chi^2$=55,665 p<0,001). For instance 76% of those pupils who smoked everyday during last 30 days thought that smoking is hazardous to their health compared to 96% of those who last month did not smoke at all ($z$=2,53; p<0,05).

Substance use is often associated with weight loss tactics as early as in secondary school. Several studies of high school populations have demonstrated an association between problem weight loss tactics and the use of alcohol, cigarettes and marijuana [87]. In case of
young girls, being slim gives these girls self-confidence, and makes them feel fashionable. Surrounded by a culture that supports such beliefs, some adolescent girls may see cigarettes as a way to attain these goals.

It is known that cigarettes are used to control appetite. A survey of 16 000 adolescents found that the heaviest smokers were more likely to believe that smoking controls weight compared with non-smokers [87].

Pupils were asked whether they think smoking has an impact on body weight: gain or loss. Data shows, that almost a half of the respondents in both countries think that smoking makes smokers loose weight. Least of the pupils (11-13 years old) in Riga thought that smoking can impact weight gain (13%) and 39% thought that it does not have any influence. Interestingly, 26% of children of Liverpool thought that smoking makes smoker gain weight. No significant differences in pupils’ knowledge by gender and current smoking status were noticed in both cities.

![Chart 8. Smoking impact for body weight: knowledge of 11-13 years old children by cities](image)

**Peer influence and attitudes towards smokers**

Many youth smokers may start experimenting because their friends offer them cigarettes [35]. Strongly habitual and addictive behavior is generally more subject to peer pressure than other behavior. Teen's attitudes towards their friends, classmates, boyfriends and girlfriends who smoke can influence their own likelihood of smoking. Studies have
shown that the single most direct influence on smoking among young teens is the smoking habits of their five best friends. Girls with a best friend who smokes are nine times likelier to become smokers themselves than those with non-smoking best friends [33]. During high school, students form peer groups that can contribute to adolescent smoking [34]. In such way very often peers become a strong social influence that reinforces smoking behavior and belonging to team, music band and other that can influence thinking about smoking [34]. Respondents were asked whether any of their closest friends smoke cigarettes. Only 49% of Latvian 11-13 years old (37% in all age groups) students indicated than none of theirs closest friends smoke compared to almost 70% among British pupils. This obviously can be explained by lower smoking prevalence in Liverpool schools in general. 38% pupils (11-13 years old) in Riga stated that some, 11%, that most and 2% that all of closest friends smoke. Accordingly in Liverpool these percentages were 24%, 6% and 2%.

As it is illustrated in chart below 85% of 11-13 years old pupils in Riga and 90% in Liverpool thinks that they would definitely or probably would not smoke if one of their best friends offered them a cigarette. However, in Riga 15% respondents had stated that they would probably or definitely smoke if that happens compared to only 10% among Liverpool students (see chart 9).

![Chart 9. Attitudes of 11-13 years old children by cities: If one of your best friends offered you a cigarette, would you smoke it?](image-url)

Interestingly, when considering all age groups in Riga – including older pupils as well, percentages look slightly different - as if resistance to peer pressure reduced. 77% thinks that
they would definitely or probably would not smoke if one of their best friends offers them a cigarette and 23% respondents had stated that they would probably or definitely smoke if that happens. Statistically significant relationship was found regarding peer influence and initiation/ experimenting with tobacco ($\chi^2=113,672; p<0,001$). From those (11-15 years old) pupils who stated that they had ever smoked, 33% indicated that they would probably or definitely smoke a cigarette if one of the best friends offered it compared with only 1% of those “never smokers” who marked the same. Pupils answers varied slightly by gender. 21% of boys and 23% of girls ($p>0,05$) indicated that they would probably or definitely smoke if one of the best friends offered a cigarette.

Statistically significant relationship was found regarding peer influence and initiation/ experimenting with tobacco in both cities among pupils of the same age: Riga ($\chi^2=70,654; p<0,001$) and Liverpool ($\chi^2=135,192; p<0,001$). In Riga from those pupils who stated that they had ever smoked, 26% indicated that they would probably or definitely smoke a cigarette if one of the best friends offered it compared with only 1% ($z=7,6; p<0,05$) of those “never smokers” who marked the same. In Liverpool this was respectively 39% and 1,5% . Pupils answers varied slightly by gender. 14% of boys and 17% of girls in Riga ($z=0,76; p>0,05$) and 8% boys and 13% girls in Liverpool ($z=1,54; p>0,05$) indicated that they would probably or definitely smoke if one of the best friends offered a cigarette. Significant association was also documented between having friends who smoke and smoking initiation among pupils of the same age in Liverpool ($\chi^2=74,84; p<0,001$) and Riga ($\chi^2=47,374; p<0,001$). Only 31% of those who tried smoking cigarettes did not have any friends who smoke, in contrary 78% of those who never tried it did not have close friends who smoke among students in Liverpool ($z=8,7; p<0,001$). Very similar distribution was noticed among 11-13 years old pupils in Riga - 34% and 70% respectively ($z=7,14; p<0,001$).

Teenagers tend to believe that smoking will improve their image by making them look more mature or “cool” as those who smoke are frequently seen as tough, sexually attractive and more sociable [33]. For young ones who do have such perception, smoking could be an attempt to improve the way they are perceived by friends and to fit in particular desired group and if peers do react positively to it, then the new smoker is very likely to continue doing that. And one of the reasons of smoking initiation and maintenance of it could be a belief that smoking helps to find more friends as it is associated with indicators of peer involvement such as frequency of dating and getting together with friends [32].
Therefore, considering all mentioned above, pupils were asked what are their thoughts about it. As we can see in a chart bellow, attitudes towards girl smokers were less favorable and more pupils thought that girl smokers have lesser friends (35% Liverpool and 49% Riga) in comparison to boys (29% Liverpool and 40% Riga). Approximately one fith of pupils stated that smokers, boys and girls have more friends (see chart 10).

**Chart 10. Pupil attitudes (11-13 years old) distribution by cities: Does boys and girls who smoke have more or less friends?**

Pupil attitudes towards male smokers varied regarding gender in Liverpool. Girls (16%) were less likely to think, compared with boys (36%) that boys who smoke have lesser (z=4,66; p<0,05) as well as 57% girls and 40% though that smoking in boys does not influence the amount of friends they have (z=3,3; p<0,05). In Riga, attitudes towards boy smokers did not vary significantly by gender (p>0,05). Relationship between current smoking status and children attitudes towards boys who smoke were noticed. In Liverpool, 6% of smokers thought that boys who smoke have less friends in comparison to 30% of non-smokers who though the same (z=4,98; p<0,05). Similarly, 14% of smokers in Riga and 46% of non-smokers thought that boys who smoke have lesser friends (z=5,57; p<0,05).

56% of boys and 44% of girls in Riga (11-13 years old) thought that girls who smoke have lesser friends (z=2,22; p<0,05) as well as 28% and 39% respectively think that smoking by girls does not influence the amount of friends they have (z=2,16; p<0,05). Attitudes towards girls who smoke also varied by current smoking status among pupils in Riga. For instance, 30% of smokers thought that girls who smoke have lesser friends compared to 53%
of non-smokers who had the same attitude (\(z=3.22; \ p<0.05\)). In Liverpool similar variations by gender and current smoking status were noticed. 26% of girls compared to 36% of boys \((z=2.12; \ p<0.05)\) and 19% of smokers compared to 35% of non-smokers thought that girls who smoke have lesser friends \((z=2.17; \ p<0.05)\) (see table 7).

### Table 7. Attitudes: smoking and amount of friends/attractiveness

<table>
<thead>
<tr>
<th>Category</th>
<th>Think boys who smoke have less friends</th>
<th>Think girls who smoke have less friends</th>
<th>Think smoking makes young people look less attractive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current smokers (%)</td>
<td>Non-smokers (%)</td>
<td>Current smokers (%)</td>
</tr>
<tr>
<td>Riga (11-15 years old)</td>
<td>12.2*</td>
<td>40</td>
<td>20.7*</td>
</tr>
<tr>
<td>Riga (11-13 years old)</td>
<td>14*</td>
<td>46</td>
<td>30</td>
</tr>
<tr>
<td>Liverpool</td>
<td>6*</td>
<td>30.3</td>
<td>19*</td>
</tr>
</tbody>
</table>

*p<0.05 compared by current smoking status

As it was discussed earlier tobacco industry targets young people to assure future consumers. The image of a smoker created by tobacco industry marketing is an attractive, tough, mature or “cool” person. The images of smoking actors who can be a role models for young people are screened on TV, movies and so on. Therefore for youths, smoking can be an attempt to improve the way they're perceived by friends and peers and if they get a positive reaction its very likely that new smoker will continue to smoke. However, survey results are contradictory as vast majority of children indicated that in their opinion smoking makes young people look less attractive (78% Riga and 75% Liverpool). Approximately one fifth of respondents (15% Riga and 19% Liverpool) thought that smoking does not make any difference and only a small percentage 7% of respondents in Riga and 5% in Liverpool thought that it makes young people look more attractive. Pupil attitudes did vary significantly in both countries by current smoking status: non-smokers were more likely to think that smoking makes young people look less attractive (see table 7).

Youths’ attitudes regarding this question varied by gender: 81% of boys and 71% of girls in UK thought that smokers look less attractive than non-smokers \((z=2.24; \ p<0.05)\). However, in Riga, boys were less likely to think that smoking makes young people look less attractive than girls – 76% and 81% (11-13 years olds \((z=11.1; \ p<0.05)\)) and 67% and 78% respectively (11-15 years old \((p<0.05)\)). Some studies also show similar results, that young people not necessarily have a positive attitude towards smokers. For instance, one qualitative
study have with high school students also showed interesting results where some of nonsmokers not only described their dislike for smoking, but also had derogatory terms for smokers, such as individuals who are “pathetic”, “dumb”, “stupid” [34].

**Passive smoking**

SH-UK estimates that about 600 annual lung cancer deaths and up to 12,000 cases of heart disease in non-smokers in the United Kingdom can be attributed to passive smoking [88]. Non-smokers who are exposed to secondhand smoke in the home have a 25% increased risk of heart disease [89]. Immediate effects of secondhand smoke include cardiovascular problems such as damage to cell walls in the circulatory system, thickening of the blood and arteries, and arteriosclerosis or heart disease, increasing the chance of heart attack or stroke [90].

As I have previously mentioned tendency to believe that smoking is less hazardous to health is still common and people are less definite in comparison to their views about active smoking. According to Eurobarometer data “Europeans attitudes towards tobacco”, three quarters of Europeans agree that passive smoking is hazardous for non-smokers health and 95% thinks that smoking near pregnant woman poses a health risk for fetus. Chart bellow illustrates pupil perceptions about passive smoking as a health hazard (see chart 11).

**Chart 11. Distribution by cities (11-13 years old pupils): Do you think the smoke from other people’s cigarettes is harmful for you?**

If compared to perceptions about active smoking it is easy to notice that pupils are more definite about the active smoking as a health hazard. Even though 89% of pupils in Liverpool
schools and 94% of pupils in Riga indicated that other people’s cigarettes is definitely or probably harmful for them, which is similar to the percentages of their answers about active smoking as health hazard accordingly 92% and 94%, still higher percentage were less definite about passive smoking and marked the statement - probably harmful – 31% in Liverpool and 18% in Riga. In comparison to 7% and 9% about the active smoking.

Relationship between youth perceptions of passive smoking as a health hazard and their smoking status was found among pupils in Riga. 90% of smokers and 95% of non-smokers (11-15 years old) knew that passive smoking is hazardous to their health (z=1,61; p>0,05), but smokers were less definite and 56% compared to 76% non-smokers marked the answer option – “definitely yes” (z=4,13; p<0,05). Statistically significant differences comparing pupils answers by gender were not found (p>0,05). Among 11-13 years old pupils 86% of smokers 95% non-smokers knew that smoke from other peoples cigarettes is hazardous to health (z=1,77; p>0,05). 64% smokers and 78% of non-smokers were definite about that (z=1,93; p>0,05). In Liverpool relationship between current smoking status and pupils knowledge about passive smoking as health hazard was noticed: 92% non-smokers and 77% smokers indicated that passive smoking is hazardous to health (p<0,05). 92% of girls and 88% boys thought that tobacco smoke from other people is harmful for them (p>0,05). Boys were more definite about it: 27% of them marked the answer option “probably yes” compared to 38% of girls who did the same (p<0,05).

Pupils’ (11-15 years old) answers in Riga about the passive smoking as a hazard were also related to passive smoking at home. In general, both passive smokers (93%) and those who were not exposed to ETS (94%) at home were knowledgeable and knew that passive smoking is hazardous to health. However, those who reported passive smoking during last week at least one day, were less definite than those who did not: 26% marked the answer option “probably yes” and 67% definitely yes, in comparison to 17% and 77% accordingly (p<0,05).

Pupils were asked to what extent, if at all, did they think it’s acceptable for young children, adults and pregnant woman be exposed to ETS in enclosed spaces. Children and woman are the disadvatad groups that are most likely to be exposed to environmental tobacco smoke which contributes to the increase of health inequalities. Pregnant woman is another vulnerable group when it comes to passive smoking. Passive smoking has an adverse effect not only for woman’s health, but it also impair the growth of fetus, can be a reason of miscarriage, cause a spontaneous abortion, diseases and death during infancy. Exposure to ETS during pregnancy can lead to low birth weight, smaller lungs and reduced lung function
as well as an increase of sensitivity of respiratory tract later in life. Moreover, the risk of
cancer development in children as well as behavioral and cognitive problems and disorders
increases [13, 91].

The highest incidence of the same age children, in both countries thought, that pregnant
woman should never be exposed, in comparison least children thought that adults should
never be exposed to ETS (36% Riga and 47% in Liverpool). Other answers of respondents in
both cities, also indicates that children have an opinion that it is least harmful for adults to be
exposed as 23% of participants in Riga and 23% in Liverpool have marked the answer which
says that it is ok to be exposed occasionally. In addition, 12% in Riga and 5% in Liverpool
thinks that it is not a problem for adults to breathe air polluted by tobacco smoke. Quite a high
percentage of pupils did not know or where not sure to what extent it is acceptable for young
children (16% Riga, 23% Liverpool), adults (accordingly, 16% and 25%) and pregnant
woman (accordingly 12% and 16%) be exposed to ETS (see chart 12).

![Chart 12. Distribution by cities (11-13 years old): Pupils who think, that children, adults and pregnant woman should never be exposed to ETS.](chart12)

Statistically significant differences by gender regarding pupils’ knowledge and
attitudes to which extent, if at all it is acceptable for young children, adults and pregnant
woman be exposed to second hand smoke were not noticed in Riga schools. However, some
significant differences in knowledge by gender were noticed in Liverpool. Interestingly, boys
seemed to be more knowledgeable than girls and higher percentage of the marked the answers
that children (70%), adults (52%) and pregnant woman (81%) should never be exposed to
ETS, compared with girls accordingly – 60%, 40% (z=2,35; p<0,05 comparing with boys) and 70% (z=2,44; p<0,05 comparing with boys).

5.1.3. Smoking cessation history and intentions to quit

Stopping smoking substantially reduces mortality risks even amongst long-term smokers [46]. Obviously, it is particularly advantageous if it occurs at young age. The cumulative risk of lung cancer by age 75 is 15,9% for men who continue to smoke and 9,9%, 6%, 3% and 1,7% for men who ceased smoking at ages 60, 50, 40 and 30, respectively [46]. Large numbers of smokers, mainly men from developed countries have quit the habit in recent decades [4].

In a whole surveyed population in Riga (11-15 years old) 12% indicated willingness to quit smoking now, which accounts for a half of all current smokers (23%). Distribution of the answers varied regarding pupil smoking habits in Riga: higher percentage of heaviest smokers had a desire to quit in comparison to “lighter” smokers. For instance, 47% of pupils who smoked everyday during last month compared to 22% of those who smoked 1 or 2 days (z=2,13; p<0,05) wanted to quit now. Percentages of those who are willing to quit varied by gender in Riga: 60% of boys and 35% girls had a desire to stop smoking (z=2,66; p<0,05). Such difference could partly be explained by higher proportion of daily smokers among them – 8,5% (34% of smokers) compared to 3,8% (19% of smokers) (z=2,21; p<0,05).

As we can see in a chart bellow, more than a half or a current smokers (current 15% Riga and 8% Liverpool) of the same age group (11-13 years old) in both countries are willing to quit smoking now (see chart 13).
Among younger ones 11-13 years old pupils in Riga, distribution of the answers had similar view. Pupil intension varied regarding pupil smoking habits: higher percentage of heaviest smokers had a desire to quit in comparison to “lighter” smokers - 36% of pupils who smoked everyday during last month compared to 19% of those who smoked 1 or 2 days (z=1; p>0,05) wanted to quit now. It also varied by gender: 75% of boys and 47% girls had a desire to stop smoking, but significant differences were not found (z=1,83; p>0,05). Similar trend was noticed in among pupils in Liverpool schools 60% and 9% respectively (p<0,05). In Liverpool where smoking prevalence was higher among girls, 50% of them were willing to quit compared to 95% of boys who wanted the same (p<0,05). Review of previous studies shows that persons who smoke few cigarettes per day and cigarettes with a lower tar and nicotine content are more likely to relapse because they believe that smoking under these conditions is not a serious danger to their health [92]. Similarly, those who do not smoke everyday may not even perceive themselves as smokers or/and do not consider such smoking as health hazard, which can lead to lack of motivation to quit the habit.

In addition, respondents were asked if they think that they will smoke anytime during next 12 months. 23% of pupils (11-15 years old) in Riga stated that they will probably or definitely smoke anytime during next year. Which is consistent with current smoking prevalence among pupils – 23% and that could mean that they will continue smoking. However, majority of them indicated the answer “probably” which could mean that person is thinking about quitting, but is not sure about success.
14% of 11-13 pupils in Riga indicated that they would probably or definitely smoke during next year, which is also consistent to current smoking status 15% in this population. Interestingly, among Liverpool students the percentage of those who thought that would definitely or probably smoke during next 12 months was 12%, which is 4% higher than current smoking prevalence (see chart 14).

![Bar chart showing distribution by cities (11-13 years old pupils) at any time during the next 12 months do you think you will smoke cigarettes?](chart.png)

**Chart 14. Distribution by cities (11-13 years old pupils) At any time during the next 12 months do you think you will smoke cigarettes?**

81% of girls and 76% of boys in Riga (11-15) schools think that they definitely or probably would not smoke cigarettes during the next year ($z=1.36; p>0.05$). Respectively among those 11-13 years old - 90% females and 82% males thought the same ($z=2.13; p<0.05$). Meanwhile, 90% of males and 83% of females in Liverpool reported the same ($z=1.90; p>0.05$).

Finally, respondents had to answer the question whether they intend to stop smoking (e.g. cigarettes, cigars, water pipe) by marking the adequate answer option. Very similar percentages of children in both countries indicated that they do not have intentions to quit smoking ever: 1.5% in Liverpool and 2% in Riga. Other pupils reported intentions to stop smoking within the next month: 4% in Liverpool and 8.5% Riga and within next year 1.6% and 2.3% respectively. 3.9% of pupils in Liverpool schools and 7.3% in Latvian schools indicated that they intend to quit, but they still were not sure when. Statistically, significant differences by gender among pupils in both cities were not found ($p>0.05$).
Almost all first attempts to use tobacco products occurs during high school years [44]. As well as most of young people who smoke report that they want to quit smoking and globally, over 2/3 of youth between the ages of 13 to 15 years have tried to stop smoking [93]. Once regular smoking is established, quit rates among adolescents and young adults remain at 4-5% per year and drop to 3% among older adult smokers [94, 95] Chart bellow illustrates number of times that pupils tried to quit during last year. Almost 10% of youths in Liverpool and 14% in Riga (20% in 11-15 years olds) had tried to stop smoking one time or more (see chart 15).

![Chart 15. Number of times of quitting smoking during the past year by cities (11-13 years old pupils)](chart)

Relationship between gender and number of attempts to quit was not found in schools of both cities (p>0,05). Counselling, support or just a simple advice can make difference and help to motivate young person to quit and remain absent after successful cessation.

As we can see in a table 8 almost 1 in 5 pupils in Riga had never received help or advice to quit smoking, whereas in Liverpool this proportion was 1 in 9. Statistically significant differences by gender regarding this question were not found in all schools (p>0,05) (see table 8).
Table 8. Have you ever received help or advice to help you quit smoking?

<table>
<thead>
<tr>
<th>Statement</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Riga (11-15 years old)</td>
</tr>
<tr>
<td>I have never smoked</td>
<td>60%</td>
</tr>
<tr>
<td>Yes, from a programs or health professional (e.g. school nurse/other health worker)</td>
<td>4%</td>
</tr>
<tr>
<td>Yes, from a friend</td>
<td>10%</td>
</tr>
<tr>
<td>Yes, from a family member</td>
<td>7%</td>
</tr>
<tr>
<td>Yes, from both programs or health professionals and from friends or family</td>
<td>4%</td>
</tr>
<tr>
<td>No</td>
<td>17%</td>
</tr>
</tbody>
</table>

Some studies suggest that friends are a potential negative influence during an adolescent’s quit attempt [34]. Moreover, same study have showed, that pupils themselves think that it is harder for young people to get help and support for smoking cessation as it is more focused on adults [34].

5.2. Follow up survey: results and comparison to baseline data

5.2.1. Pupils’ opinions about particular aspects of sessions led by their peers

Three extra questions were included in follow up questionnaire. The purpose of them was to find out if pupils enjoyed sessions led by their peers, if they increased their knowledge about smoking and tobacco related issues as well as what influence on their own behavior they had made. It is important that pupils accept intervention positively and find it interesting, attractive and useful. If the occupation is enjoyable, it is more likely that the better results can be achieved of at least greater attention can be expected. According to evaluation reports of the project children participated in the project enthusiastically. Most of the advocates, who were train to, and delivered education sessions about smoking and tobacco related issues to their peers, were volunteers and the drop off rate among them was minimal. Children beneficiaries - those children for whom the sessions were led, were asked if they enjoyed
them. Data analysis had showed that more than a half of pupils in Riga stated that they have enjoyed sessions. Higher percentage of pupils in Liverpool reported the enjoyment of sessions – 75% and approximately one in ten pupils did not enjoy them. Differences between two countries were statistically significant.

![Chart 16. Enjoyment of the sessions about tobacco and smoking that were led by the peer advocates earlier this school year by cities all ages](chart.png)

Relationship between pupil enjoyment levels of the sessions current smoking status was found ($\chi^2=3.361; p=0.011$). In Liverpool 77% of non-smoker indicated that they had enjoyed the sessions “a lot” or “a little” in comparison to 65% of smokers who indicated the same ($z=1.29; p>0.05$). Differences between genders regarding this question were not noticed – 78% of boys and 73% girls enjoyed sessions at least a little bit ($z=1.24; p>0.05$). Among pupils in Riga significant differences between current smokers (53%) and non-smokers (56%) and enjoyment of sessions were not found ($z=0.54; p>0.05$). However, it did vary by gender ($\chi^2=15.235; p=0.002$) where boys (49%) seemed to enjoy it less than girls (61%).

Moreover, pupils were asked to give their opinion whether sessions led by peer advocates earlier this school year increased their understanding about smoking and other related issues.
Chart 17. Did the sessions that were led by peer advocates earlier this school year increase your understanding about smoking and other tobacco-related issues

As chart above illustrates a half of pupils in Liverpool indicated that sessions had increased their understanding about smoking and other related issues at lot, whereas in Riga smaller percentage of the respondents, almost one third indicated the same. Similar percentage of children from both cities stated that sessions increased their understanding a little. In Riga one in five pupils indicated that sessions led by peers did not increase their understanding about smoking and issues related to it at all, comparing with only 5% of pupils in Liverpool schools who thought the same. Again, more pupils in Liverpool thought that sessions did increase understanding about tobacco and issues related to it. In Liverpool 84% boys and 79% girls stated that sessions had increased their understanding about smoking and other related issues “a lot” or “a little” (z=1,15; p>0,05). In Riga accordingly 61% and 70% indicated the same (z=1,95; p>0,05).

It was mentioned previously that pupils were also asked to give their opinion about the impact of sessions on their own behavior related to tobacco use. It was discussed in the literature review how important is not to initiate smoking. The earlier young people start to smoke, the more likely they will smoke as adults and the longer time they smoke accumulates. Many experts claim that preventing youths from engaging in smoking initiation is crucial [96]. Any cigarette uses places adolescent for more frequent use and for further progression through the stages of smoking behavior [9]. Successfully preventing youths from experimenting with cigarettes would reduce smoking prevalence and the consequences of it. Almost all first attempts to use tobacco products occurs’ during high school years [45].
Numerous of studies indicate, that approximately 80% of recent smokers began to smoke before they reach adulthood [4, 9]. Therefore, youths are definitely the right audience to target when it comes to achieving goal to reduce the incidence of smoking initiation. Smoking is initiated under the influence of many factors that may encourage young person to do that.

**Chart 18. Pupils opinions about influence of sessions for their own smoking related behavior**

As we can see in chart above quite a large part of pupils – 30% in Riga and 38% in Liverpool indicated that sessions that were led by their peers had made them less likely to start smoking. Approximately, 1 in 5 respondents in both cities stated that sessions let them to quit or at least attempt to quit smoking. Smaller proportion of participants marked that sessions did not have an impact on their smoking behavior. 29% of current smokers in Riga stated that sessions led them to stop or at least try to stop smoking as well as another 25% indicated that they made them more likely to give up the habit in the future. 33% of non-smokers think that education sessions led by their peers had made them less likely to start smoking. According to follow up survey data, in Liverpool, 42% of non-smokers think that after sessions now they are less likely to start smoking. Similar, to results in Riga schools, among current smokers in England, 32% of them claim that education sessions led them to quit or attempt to quit smoking as well as 20% were encouraged to do it in the future.
5.2.2. Smoking behaviour and prevalence

The major aim of tobacco prevention, definitely, is to reduce smoking prevalence. There could be numerous of reasons why interventions/programs affects people and encourages to quit smoking or why not. Some studies indicate, that for children they have to be persistent and repeated over time, to be most effective [9]. However, this intervention was a one time practice and short term – lasted one academic year. Therefore, the impact and evaluation of it on smoking prevalence is quite limited.

As it is illustrated in table (table 9) bellow this intervention could have brought some changes regarding pupils smoking prevalence in Riga schools. The decrease in smoking prevalence by 7% was noticed in Riga schools (\(z=2.64; p<0.05\)). Changes of smoking prevalence also varied by gender, were smoking rates among girls decreased by 7.7% (\(z=2.25; p<0.05\)) and 5.7% among boys (\(z=1.32; p>0.05\)) (see table 9).

**Table 9. Distribution by smoking status before and after intervention**

<table>
<thead>
<tr>
<th>Category</th>
<th>Before intervention</th>
<th>After intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Riga (11-15 years old)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>Non-smokers: 75.3%</td>
<td>Smokers: 24.7%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-smokers: 81%</td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td>Non-smokers: 80%*</td>
<td>Smokers: 20%</td>
</tr>
<tr>
<td></td>
<td>87.7%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>77%*</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>84%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Riga (11-13 years old)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>Non-smokers: 81.3%</td>
<td>Smokers: 18.7%</td>
</tr>
<tr>
<td></td>
<td>87.9%</td>
<td></td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td>88.8%*</td>
<td>12.2%</td>
</tr>
<tr>
<td></td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>85%*</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Liverpool</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>Non-smokers: 95.2%</td>
<td>Smokers: 4.8%</td>
</tr>
<tr>
<td></td>
<td>95.7%</td>
<td></td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td>87.5%</td>
<td>12.5%</td>
</tr>
<tr>
<td></td>
<td>88.5%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>92%</td>
<td>8%</td>
</tr>
<tr>
<td></td>
<td>93%</td>
<td>7%</td>
</tr>
</tbody>
</table>

*p<0.05 comparing before and after intervention

Riga (11-15) (\(\chi^2=10.799; p=0.095\)); Riga (11-13) (\(\chi^2=10.328; p=0.109\)); Liverpool (\(\chi^2=4.329; p=0.632\))
However, smoking prevalence between girls and boys did not vary significantly (z=1.90; p>0.05). Smoking prevalence among 11-13 year old pupils also decreased by 7% from 15% to 8% (z=2.7; p<0.05). Among boys from: 19% to 12% (z=1.52; p>0.05) and girls 12% to 5% (z=2.31; p<0.05). Percentages of smokers varied only by 1% in Liverpool schools and significant changes before and after intervention were not found (z=0.53; p>0.05). Changes also did not vary significantly by gender (p>0.05) (see table 9).

Percentage of daily smokers in Riga among 11-15 years old pupils decreased to 3% (z=1.22; p>0.05). Among 11-13 years old pupils in Riga percentage of everyday smokers decreased to 0.4% (z=2.73; p<0.05) and in Liverpool to 0.3% (z=0.34; p>0.05).

Children also were asked to specify the number of cigarettes they smoked during those days when they engaged in this behavior. As we can see in a table bellow the percentage of “mild” smokers increased after intervention in both cities: from 24% to 26% in Riga (z=0.29; p>0.05) and from 30% to 39% in Liverpool (z=0.73; p>0.05). It is hard to determine the particular reasons of such changes, because this research is limited. However, one of the possible reasons could be shifting from “heavier” smoking to “lighter” which means that smokers smoked less cigarettes a day as again in both countries percentage of those who smoked more than 20 cigarettes per day decreased (p>0.05). In addition, in Liverpool after intervention none of the smokers had smoked more than 10 cigarettes per day on the days they smoked during last 30 days before administration of questionnaires (z=1.35; p>0.05). Moreover, sadly, a small percentage of those who initiated smoking could also had been added (see table 10).

<table>
<thead>
<tr>
<th>Number of cigarettes</th>
<th>Less than 1 per day</th>
<th>1 per day</th>
<th>2 to 5 per day</th>
<th>6 to 10 per day</th>
<th>11 to 20 per day</th>
<th>More than 20 per day</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
<td>Before</td>
<td>After</td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Riga (%)</td>
<td>24.3</td>
<td>26.1</td>
<td>20.7</td>
<td>20</td>
<td>30.6</td>
<td>29.2</td>
</tr>
<tr>
<td>Liverpool (%)</td>
<td>29.7</td>
<td>39.3</td>
<td>13.5</td>
<td>17.8</td>
<td>37.8</td>
<td>32</td>
</tr>
</tbody>
</table>

Riga (χ²=7.965; p=0.241); Liverpool (χ²=3.073; p=0.8)

Incidence of water pipe smoking remained almost the same in both countries in the same age group: from 1.9% to 1.5% in Liverpool (z=0.44; p>0.05) and 11.7% and 9.2% (z=1,01; p>0.05) in Riga (11-15 years old: 18.7% to 16.2% in Riga (z=1; p>0.05)).
It was discussed a lot previously about the importance of peers for youths and influence of them in relation to smoking. Peers are important and very influential in both: smoking initiation and maintenance of the habit. Peer support to engage in smoking behavior is a predictor of smoking, as are aspirations to meet desirable social images and become popular among peers [32]. Studies have shown that the single most direct influence on smoking among young teens is the smoking habits of their five best friends and that youths may start experimenting because their friends offer them cigarettes [35]. Girls are less resistant to peer pressure. There are some proves that girls with a best friend who smokes are nine times likelier to become smokers themselves than those with non-smoking best friends [33]. Before and after delivery of sessions for pupils led by their peers they were asked whether they would smoke a cigarette if one of the best friends offers to have one. Minor changes were registered in among pupils in Riga. 23% of respondents before intervention marked that they definitely or probably would smoke if one of their best friends offered them a cigarette, in comparison after intervention 19% stated the same (z=1,49; p>0,05). The percentage of those who would not smoke definitely increased by 3% after intervention (z=0,91; p>0,05). Changes of pupils’ attitudes regarding this question did not vary significantly by gender (see chart 19).

![Chart 19](image)

* p<0,05 comparing before and after intervention

Liverpool (χ²=7,837; p=0,05); Riga (χ²=2,049; p=0,562)

**Chart 19. If one of your best friends offered you a cigarette, would you smoke it?**

However, the change in general was influenced by girls, where the increase by 7% of those who think that they would definitely or probably not smoke if one of the best friends
offers a cigarette was present \( (z=1.73; p>0.05) \), whereas boys’ attitudes did not change. Which is a positive change as we previously discussed that girls are less resistant to follow their peers.

Changes in pupils’ attitudes were more significant among pupils Liverpool than among those in Riga. After intervention 79% of pupils now indicated that they would definitely not smoke if the best friend offered a cigarette, compared to 72% before intervention \( (z=2.36; p<0.05) \). Moreover, the percentage of those who would definitely smoke dropped to only 1% after delivery sessions \( (z=1.19; p>0.05) \). In Liverpool youth attitudes about the influence of their friends on smoking behavior varied by gender. To remind, that before intervention boys (75.9%) were more definite that they would not smoke if one of their best friend offered a cigarette than girls (67.1%) \( (z=1.89; p>0.05) \). Moreover, 4.8% of girls and 0.8% of boys before intervention marked that they would definitely smoke if that happens \( (z=2.19; p<0.05) \). Follow up data shows that boys have changed their attitudes significantly and now 84% of them definitely would not smoke if one of their best friends offered them a cigarette, compared to 76% before intervention \( (z=2.15; p<0.05) \). Moreover, none of the boys indicated that they would definitely smoke if friend gives a cigarette. Changes in attitudes among girls were different. Increase by 6% in those who claimed they would definitely or probably smoke if one of the best friends offered a cigarette \( (p>0.05) \) and the rate of those who would definitely smoke dropped from 5% to 1% \( (z=2.03; p<0.05) \). In general, research data collected in Liverpool schools showed the rates that are consistent with other studies findings and to be more precise it reflects the statement that girls can resist to friends influence less than boys. However, among pupils in Riga schools such variations by gender were not found.

5.2.3. Attitudes and knowledge

Another task of the project “Working with Communities to Reduce Health Inequalities: Protecting Children and Young People from Tobacco” was to increase knowledge of pupils about tobacco and tobacco related issues and influence their attitudes about it.

Smoking is often described as a “social” event that helps adolescents to “fit in” with a peer group [34]. Teen's attitudes towards their friends, classmates, boyfriends and girlfriends who smoke can make a difference to their own likelihood of smoking. Tobacco industry carefully forms the image of smoker as an attractive, sociable and mature person, which appeals to youths. Friends are really important and influential to youths. Pupils before and
after intervention were asked whether they think smoking has an impact on the amount of friends person has. There were two separate questions about the girls and boys. Significant changes comparing pupil answers to the question whether boys who smoke have more of less friends or smoking does not have any influence on that, before and after intervention were found in Liverpool. Almost the same percentage of pupils had an opinion that smoking does not make any difference in determining whether person has more or less friends. After sessions, the percentage of those who think that boys who smoke have less friends increased by 7% (z=2,03; p<0,05) in Liverpool. Among pupils in Riga schools attitudes towards boys who smoke remained almost the same (see charts 20-21).

Charts 20-21. Attitudes: Do boys who smoke have more or less friends?

In Riga among 11-13 years old pupils just some minor changes were noticed. Percentage of those who thought that boys who smoke have more friends decreased from 21% to 19% (z=0,61; p>0,05). 3% more of the pupils thought, that it does not have any influence (z=0,83; p>0,05). Changes of pupil attitudes towards boys who smoke and amount of friends they have varied by gender in both countries before and after intervention. In Liverpool girls attitudes regarding this questions did not change significantly: after intervention 25% thought that boys have more friends if they smoke, in comparison to 27% before intervention (z=0,38; p>0,05). Accordingly, 16% and 20% thought that boys have lesser friends if they smoke (z=0,87; p>0,05). However, more significant changes of the attitudes were noticed among boys (χ² =7,403; p=0,02), where 24% of boys before intervention thought that males who smoke have more friends in comparison to 15% who thought the same after intervention.
(z=2.44; p<0.05). 36% and 46% respectively thought that boys have lesser friends if they smoke (z=2.17; p<0.05). In Riga, similar changes were noticed. 23% of boys before intervention thought that male peers who smoke have more friends compared to 14% after intervention (z=2.54; p<0.05). 51% of boys after intervention thought that smoking do not have any influence compared to 43% before intervention (z=1.73; p>0.05).

Change of the attitudes towards boys who smoke and influence of their behavior on amount of friends, varied by smoking status in both cities. In Liverpool less of the pupils who smoke thought that boys’ smokers have more friends: decrease from 38% to 18% among smokers was noticed after intervention (z=1.77; p>0.05) and decrease from 25% to 19% among non-smokers (z=2; p<0.05). The number of those who thought, that smokers have less friends decreased by 7% among non-smokers (z=1.99; p<0.05). 71% of smokers after intervention thought that’s smoking among boys does not make any different when it comes to amount of friends they have, compared to 56% before intervention (z=1.21; p>0.05). Similarly, in Riga less smokers after intervention thought that boys who smoke have more friends – decrease from 25% to 16% (z=1.35; p>0.05) and higher percentage of smokers 16% thought that boys who smoke have less friends compared to 10% before intervention (z=1.08; p>0.05).

Variations of attitudes before and after intervention about girls who smoke and the impact of their smoking to the amount of friends they have were not high (see table 11).

Table 11. Girls who smoke have more or less friends: attitudes before and after intervention

<table>
<thead>
<tr>
<th>Category</th>
<th>Before intervention</th>
<th>After intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More friends</td>
<td>Less friends</td>
</tr>
<tr>
<td></td>
<td>(n=92)</td>
<td>(n=140)</td>
</tr>
<tr>
<td>Liverpool (z=1.113; p=0.573)</td>
<td>21.9%</td>
<td>33.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More friends</td>
<td>Less friends</td>
</tr>
<tr>
<td></td>
<td>(n=83)</td>
<td>(n=144)</td>
</tr>
<tr>
<td>Riga (11-15 age)</td>
<td>15.2%</td>
<td>41.8%</td>
</tr>
<tr>
<td>(z=3.484; p=0.175)</td>
<td>(n=77)</td>
<td>(n=211)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More friends</td>
<td>Less friends</td>
</tr>
<tr>
<td></td>
<td>(n=49)</td>
<td>(n=173)</td>
</tr>
<tr>
<td>Riga (11-13 age)</td>
<td>16.7%</td>
<td>49.6%</td>
</tr>
<tr>
<td>(z=3.985 p=0.136)</td>
<td>(n=57)</td>
<td>(n=169)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More friends</td>
<td>Less friends</td>
</tr>
<tr>
<td></td>
<td>(n=31)</td>
<td>(n=135)</td>
</tr>
</tbody>
</table>

11.5% of girls in Riga after intervention thought that girls who smoke have more friends compared to 15% before intervention (z=1.1; p>0.05). Very similar change was noticed among boys from 15.6% before to 11.8% after who thought that girls who smoke have more friends (z=1.12; p>0.05). Most of boys have changed theirs attitude to: "no difference from
“non-smokers” 38.9% to 46.2% ($\chi^2=2.997; p=0.223$). Among 11-13 years old pupils changes of attitudes were not significant.

In Liverpool, after intervention more of the girls started to think that girls who smoke have less friends (31% after compared to 26% before intervention) ($z=0.93; p>0.05$). Similarly boys have changed their attitude – from 36% to 42%, who now think that girls who smoke have less friends than girls non-smokers ($z=1,31; p>0.05$).

Comparing answers by current smoking status before and after intervention slight variations were noticed. In Riga from almost one fifth of smokers who before intervention thought that girls who smoke have more friends decreased to only 8% after intervention ($z=2,18; p<0.05$). Moreover, after intervention higher percentage of smokers – 73% thought that smoking by girls does not influence their number of friends, compared to 59% before intervention ($z=1,9; p>0.05$). Again changes of attitudes among Liverpool pupils were similar. Percentage of those smokers who thought that girls who smoke have more friends decreased from 28% to 15% ($z=2,08; p<0.05$). Higher percentage of smokers after intervention thought that smoking by girls has no influence on amount of friends (65% after compared to 53% before intervention) ($z=1,55; p>0.05$).

Social smoking can be referred to the use of tobacco products in the situational context. In contrary with people who smoke everyday, social smokers are more likely to limit their cigarette intake to social gatherings – parties and other. Before and after intervention pupils where asked to express their opinion if they think that smoking cigarettes help people feel more or less comfortable at celebrations, parties and in other social gatherings. Significant changes in attitudes among pupils in Latvia after intervention were not noticed. However, in Liverpool pupils attitudes regarding this question varied significantly where the major change occurred in regards to statement, that smoking cigarettes helps people to feel more comfortable at celebrations, parties, or in other social gatherings (see chart 22).
*p<0,05 comparing before and after intervention
($\chi^2=10,856; p=0,01$)

**Chart 22. Liverpool: Smoking cigarettes help people feel more or less comfortable at celebrations, parties, or in other social gatherings**

Pupil attitudes before and after intervention varied by smoking status in Liverpool. Statistically significant changes were found in non-smokers answers ($\chi^2=9,6; p=0,02$). For instance, before intervention 22% of them thought that smoking helps people to feel more comfortable at celebrations, parties and in other social gatherings, whereas after intervention only 14% had the same attitude after ($z=2,85; p<0,05$). 7,1% of smokers after sessions thought that smoking helps people feel more comfortable in social gatherings compared to 31% of who thought the same before delivery of sessions ($z=2,42; p<0,05$). Moreover, 71% of youths who smoked during last 30 days, after intervention started to doubt whether smoking cigarettes does have any impact of feeling more or less comfortable during parties and other gatherings compared to 41% who marked the same before intervention ($z=2,45; p<0,05$). Attitudes varied slightly by gender: 12% of boys and 16% of girls after project implemention thought, that smoking helps people feel more comfortable at social gatherings, in comparison to 21% and 20% before intervention (Boys: $z=2,58; p<0,05$) (Girls: $z=0,87; p>0,05$).

Theories concerning why people smoke can be divided in two broad categories: cognitive and non-cognitive [97]. Cognitive theories are based on assumption that person behavior is influenced by what he knows and believes. What is important is not what may be true, but rather what the person believes to be true. And if people believe that smoking gives benefits, they may neglect the risks and engage into behaviour to achvieve desired outcomes.
Tobacco industry to ensure future consumers does everything to encourage young ones to start. One of the tricks or smart marketing is a formation of positive image of a smoker (attractive, mature, sexy and etc.) which youths find appealing and desire to have same features. Majority of population definitely wants to be/feel attractive, so are the youths who are particularly sensitive during adolescence, the time when personally forms. During baseline and follow up survey young people were asked if they think that smoking makes young people look more or less attractive. As we can see in a table bellow there were mild positive changes after intervention. In Liverpool almost 81% think that youths who smoke look less attractive, compared to 77% before intervention (z=1,39; p>0,05). In Riga the percentage of those who had an attitude that smokers look less attractive increased by 2%. However, significant changes were not found in both countries as well as it did not vary by gender and current smoking status (see table 12).

<table>
<thead>
<tr>
<th>Category</th>
<th>Before intervention</th>
<th></th>
<th></th>
<th>After intervention</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More attractive</td>
<td>Less attractive</td>
<td>No difference from non-smokers</td>
<td>More attractive</td>
<td>Less attractive</td>
<td>No difference from non-smokers</td>
</tr>
<tr>
<td>Liverpool (χ²=2,195; p=0,334)</td>
<td>4.5% (n=19)</td>
<td>76.6% (n=321)</td>
<td>18.9% (n=79)</td>
<td>3.1% (n=13)</td>
<td>80.5% (n=314)</td>
<td>16.4% (n=64)</td>
</tr>
<tr>
<td>Riga (11-15 years old) (χ²=0,449; p=0,799)</td>
<td>6.2% (n=31)</td>
<td>72% (n=362)</td>
<td>21.9% (n=110)</td>
<td>5.7% (n=24)</td>
<td>73.9% (n=312)</td>
<td>20.4% (n=86)</td>
</tr>
<tr>
<td>Riga (11-13 years old) (χ²=0,449; p=0,799)</td>
<td>6.8% (n=23)</td>
<td>78.5% (n=266)</td>
<td>14.7% (n=50)</td>
<td>6.3% (n=17)</td>
<td>77.3% (n=208)</td>
<td>16.4% (n=44)</td>
</tr>
</tbody>
</table>

Respondent were asked to choose the answer option that is the most consistent to their opinion about smoking and weight control before and after intervention. Analysis of follow up data had showed, that the knowledge of pupils in Latvia remained almost the same as before sessions to pupils were delivered. In Liverpool the increase of pupils’ knowledge regarding question of smoking and weight control was significant. Before intervention one fourth of pupils thought that smoking makes people gain weight, whereas after intervention one fifth of pupils had the same opinion (z=2,05; p<0,05). The percentage of those who thought that smoking makes smokers loose weight increased by 14% after delivery of sessions (z=4,01; p<0,05) (see chart 23).
Improvement of pupils’ knowledge varied by gender and by current smoking status. 14% of current smokers after intervention thought, that smoking makes people gain weight, in comparison to 20% before intervention who marked the same answer option ($z=0,62; p>0,05$) and 43% thought that it does not make any difference to body weight ($z=0,76; p>0,05$).

Education sessions led for children beneficiaries by their peers increased knowledge of non-smokers significantly regarding the smoking impact on body weight ($\chi^2=18,049; p<0,001$). After intervention 62% thought, that smoking makes people loose weight compared to 47% before intervention ($z=4,14; p<0,05$). Statistically significant improvement of boys’ knowledge was noticed ($\chi^2=7,474; p<0,024$). 59% of males during follow up survey marked that smoking makes people loose weight compared to 46% before intervention ($z=2,79; p<0,05$). Increase of knowledge among girls was also noticeable and significant. Almost 61% of females after sessions knew that smoking makes smokers loose weight, compared to 47% of females who thought the same before intervention ($z=2,38; p<0,05$). However, still very similar percentage of pupils – approximately 20% before and after intervention thought, that smoking makes people gain weight, but the percentage of those who now think that smoking does not influence body weight decreased to 19% from 30% ($z=3,64; p<0,05$).

Adverse effect of smoking on health is well proved and documented. The increase of pupil knowledge and awareness about passive smoking hazards to health did not increase significantly after intervention and remained almost the same (see charts 24-25).
Riga ($\chi^2=6.356; p=0.096$);

Liverpool ($\chi^2=2.19; p=0.534$)

**Chart 24-25. Knowledge before and after intervention: cigarette smoking harmful for health**

However, some significant changes were noticed among girls in Liverpool schools ($\chi^2=8.331; p=0.40$). The percentage of those who thought that smoking is definitely not harmful for health decreased from 5% to 0.8% after intervention ($z=3.59; p<0.05$). In Riga, the percentage of those who thought that cigarette smoking is harmful to ones health decreased from 94% to 91% among 11-13 years old pupils. But, this change was not statistically significant ($z=1.78; p>0.05$).

Another question regarding general knowledge about tobacco and tobacco related issues was the question about passive smoking and its hazards to ones health. Sadly, no major changes were detected after implementation of intervention, except some minor improvements such as increase of those who knew that smoke from others people cigarettes is definitely harmful to their health by 5% among pupils in Liverpool ($z=1.45; p>0.05$).
Riga ($\chi^2=7.987; \ p=0.05$); Liverpool ($\chi^2=7.587; \ p=0.05$)

* $p<0.05$ comparing before and after intervention

**Chart 26. Knowledge before and after intervention: smoke from other people’s cigarettes is harmful to your health?**

Differences were not found when comparing data by gender or by current smoking status. However, for instance in Liverpool changes of knowledge were higher in females – 63% of them after intervention knew that passive smoking is definitely hazardous to health compared to 55% before ($z=1.37; \ p>0.05$). Whereas, among boys percentages of those who marked the same statement were 66% and 61% respectively ($z=1.1; \ p>0.05$).

Passive smoking problem requires, not less attention than active smoking. Widespread implementation of smoking bans is a good example of effective tobacco control measure to fight with it. It helps to reduce the levels of exposure to ETS at workplace in workers as well as customers (for e.g. bar, clubs clients) [19]. Moreover, it helps to reduce the number of cigarettes used by a smoker as well as support those who are in the process of quitting [98]. Smoking bans in public places help to reduce health inequities and change people attitudes towards smoking in general – shift from perception about smoking a social norm to antisocial behavior. According to estimations, more that 79,000 adults die each year because of passive smoking in 25 member countries of EU. In EU in a year 2002 passive smoking at work accounted for 7000 deaths and passive smoking at home was responsible for 72,000 deaths. Moreover, these estimations did not include adult deaths from diseases closely related to passive smoking (such as pneumonia), children deaths and high morbidity of serious diseases (acute and chronic) caused by passive smoking [65]. However, people home is an area that
hardly can be reached and influenced by laws. This is mostly because smoking at home is considered as a personal choice, same as smoking. Such situation puts at risk and leaves high numbers of people unprotected from exposure to second hand smoke.

Children before and after intervention were asked to which extent if at all it is acceptable for young children, adults and pregnant woman be exposed to second hand smoke. As we can see in table bellow (see table 13) more than a half of children knew that children and pregnant woman should never be exposed to second hand smoke. Percentages of children in Liverpool who thought that pregnant woman should never be exposed were higher than others – 76% before intervention and 78% after. Intervention did not bring significant changes in pupils’ knowledge regarding children and pregnant woman exposure to second hand.

Children knowledge increased more notably about the adults and their exposure to second hand smoke. In Riga the percentage of those who thought that adults should never be exposed to second hand smoke increased by 4% (z=1,22; p>0,05). Among pupils in Liverpool this percentage increased by 10% (z=2,90; p<0,05). Significant differences were found when comparing changes by gender. Improvement of knowledge among boys was significant in Liverpool ($\chi^2$=16,692; p=0,001), who already were more knowledgeable when girls. 52% of them before sessions thought, that adults should never be exposed to second hand smoke whereas after delivery of education sessions by their peers it increased to 65% (z=2,84; p<0,05). Moreover, the percentage of those who thought that it is ok for adults to be exposed occasionally, decreased from 24% to 10% (z=4,08; p<0,05). Mild improvement of knowledge was also noticed among girls. 40% before intervention and 47% after intervention knew that adults should never be exposed to second hand smoke (z=1,18; p>0,05). The rate of females who thought that it is ok for adults to be exposed occasionally dropped from 24% to 18% (z=1,24; p>0,05). Changes of knowledge also varied by current smoking status among pupils in Liverpool. Improvement of knowledge among non-smokers was statistically significant ($\chi^2$=10,466; p=0,015). 59% of pupils who did not smoke during last month after intervention knew that adults should never be exposed to ETS, compared to 51% before intervention (z=2,19; p<0,05). 13% thought that its ok to be exposed occasionally after intervention compared to 21% before intervention (z=2,9; p<0,05). 28% of smokers after intervention knew that adults should never be exposed to ETS, compared to 19% before (z=0,82; p>0,05) as well as the percentage of those who thought that it is ok for adults to be exposed to second hand smoke occasionally decreased from 39% to 24% (z=1,27; p>0,05).
Table 13. Extent to which, if at all it is acceptable for young children, adults and pregnant woman be exposed to second hand smoke?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Category</th>
<th>Riga before intervention</th>
<th>Riga after intervention</th>
<th>Liverpool before intervention</th>
<th>Liverpool after intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>Should never be exposed</td>
<td>62.5% (n=316)</td>
<td>63.4% (n=267)</td>
<td>65% (n=269)</td>
<td>69.6% (n=273)</td>
</tr>
<tr>
<td></td>
<td>It’s ok to be exposed</td>
<td>8.7% (n=44)</td>
<td>9.3% (n=39)</td>
<td>8.9% (n=37)</td>
<td>7.7% (n=30)</td>
</tr>
<tr>
<td></td>
<td>It’s not a problem to be</td>
<td>12.6% (n=64)</td>
<td>11.2% (n=47)</td>
<td>2.7% (n=11)</td>
<td>1.3% (n=5)</td>
</tr>
<tr>
<td></td>
<td>Did not know/not sure</td>
<td>16.2% (n=82)</td>
<td>16.2% (n=68)</td>
<td>23.4% (n=97)</td>
<td>21.4% (n=84)</td>
</tr>
<tr>
<td>Adult</td>
<td>Should never be exposed</td>
<td>36.1% (n=182)</td>
<td>40.1% (n=170)</td>
<td>46.5%* (n=193)</td>
<td>56.7% (n=220)</td>
</tr>
<tr>
<td></td>
<td>It’s ok to be exposed</td>
<td>24% (n=121)</td>
<td>22.6% (n=96)</td>
<td>23.4%* (n=97)</td>
<td>14.2% (n=55)</td>
</tr>
<tr>
<td></td>
<td>It’s not a problem to be</td>
<td>19.2% (n=97)</td>
<td>15.8% (n=67)</td>
<td>4.8% (n=20)</td>
<td>3.6% (n=14)</td>
</tr>
<tr>
<td></td>
<td>Did not know/not sure</td>
<td>20.6% (n=104)</td>
<td>21.5% (n=91)</td>
<td>25.3% (n=105)</td>
<td>25.5% (n=99)</td>
</tr>
<tr>
<td>Pregnant woman</td>
<td>Should never be exposed</td>
<td>65.2% (n=328)</td>
<td>63.3% (n=267)</td>
<td>76.4% (n=311)</td>
<td>77.8% (n=302)</td>
</tr>
<tr>
<td></td>
<td>It’s ok to be exposed</td>
<td>7.8%* (n=39)</td>
<td>11.8% (n=50)</td>
<td>4.2% (n=17)</td>
<td>3.9% (n=15)</td>
</tr>
<tr>
<td></td>
<td>It’s not a problem to be</td>
<td>14.3% (n=72)</td>
<td>12.1% (n=51)</td>
<td>4.2% (n=17)</td>
<td>3.1% (n=12)</td>
</tr>
<tr>
<td></td>
<td>Did not know/not sure</td>
<td>12.7% (n=64)</td>
<td>12.8% (n=54)</td>
<td>15.2% (n=62)</td>
<td>15.2% (n=59)</td>
</tr>
</tbody>
</table>

\[ (\chi^2=0.540; \ p=0.91) \quad (\chi^2=3.347; \ p=0.341) \]

\[ (\chi^2=2.768; \ p=0.429) \quad (\chi^2=13.713; \ p=0.003) \]

\[ (\chi^2=4.99; \ p=0.172) \quad (\chi^2=0.740 \ p=0.864) \]

*\(p<0.05\) comparing before and after intervention

5.2.4. Intensions to quit

Another important topic where changes were desired to happen was smoking cessation or at least intentions to quit. Pupils were asked whether they think they will smoke a cigarette during the next 12 months. In Riga no major changes were noticed in all population regarding this question. However, 10% of smokers after intervention marked that they will definitely not smoke during next 12 months compared to 5% before intervention \((z=1.25; \ p>0.05)\) and 23% after compared to 27% before intervention indicated that they definitely would smoke
during next year ($z=0.58$; $p>0.05$). Moreover, there were some changes among younger (11-13 years old) ones – 9% after compared to 14% before intervention thought that they would definitely or probably smoke during next 12 months ($z=2$; $p<0.05$).

Among pupils in Liverpool, changes were more noticeable. 8 in 10 pupils indicated that they would definitely not smoke during next 12 months after sessions, compared to 1 in 7 before ($z=2.66$; $p<0.05$). Moreover, the proportion of those who previously stated that they would definitely smoke, decreased by 3% ($z=2.05$; $p<0.05$) (see chart 26).

<table>
<thead>
<tr>
<th></th>
<th>After intervention</th>
<th>Before intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely not</td>
<td>80%</td>
<td>72%*</td>
</tr>
<tr>
<td>Probably not</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>Probably yes</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Definitely yes</td>
<td>3%</td>
<td>6%</td>
</tr>
</tbody>
</table>

*p<0.05 comparing before and after intervention
($\chi^2=7.369$; $p=0.061$)

**Chart 27. Liverpool: At any time during the next 12 months do you think you will smoke a cigarette**

Changes in pupils answers did vary by gender. 74% of females after intervention indicated that they will definitely not smoke during the next 12 months compared to 64% who stated the same before intervention, which is a good change as girls accounted for the higher proportion of smokers in Liverpool ($z=1.81$; $p<0.05$). Moreover, the percentage of those who reported that they will definitely smoke during next year dropped from 7.3% to 1.5% ($z=2.45$; $p<0.05$). Changes in were significant in non-smokers before and after intervention ($\chi^2=8.927$; $p=0.03$). 86% of non-smokers after sessions stated that they will definitely not smoke during the next 12 months, compared to 79% before delivery of sessions ($z=2.51$; $p<0.05$). Smokers also had change their views significantly ($\chi^2=8.220$; $p=0.04$). 19% of smokers after intervention stated that they will definitely smoke, compared to 43% who stated the same before intervention ($z=2.09$; $p<0.05$).
“Do you intend to stop smoking” was another question related to smoking cessation. Analysis of the data collected during both: baseline and follow up survey shows, intervention did not bring significant changes regarding pupil intentions to quit in Riga schools (see table 14).

**Table 14. Smokers intentions to quit**

<table>
<thead>
<tr>
<th>Category</th>
<th>Before intervention</th>
<th>After intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Want to stop smoking now</td>
<td>Do not want to stop smoking now</td>
</tr>
<tr>
<td>Riga (11-15 years old)</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Riga (11-13 years old)</td>
<td>66%</td>
<td>34%</td>
</tr>
<tr>
<td>Liverpool</td>
<td>59%</td>
<td>41%</td>
</tr>
</tbody>
</table>

*p<0.05 comparing before and after intervention

However, pupils in Liverpool were more likely to quit smoking after intervention. The percentage of those who do intend to quit smoking, but were not sure when increased significantly by 21% ($z=2.15; p<0.05$) as well as the percentage of those who previously claimed never giving up smoking decreased by 21% ($z=2.15; p<0.05$).
6. CONCLUSION

1. The estimated smoking prevalence among pupils in Riga and Liverpool was accordingly 15% and 8%, from which 3% and 1% - smoked everyday, which varied by gender: higher among boys in Riga and girls in Liverpool. 12% of pupils in Riga and 2% in Liverpool smoked water pipe during last month. Higher smoking rate among children was associated with parental smoking and ETS exposure at home. Half of children in Riga and 44% in Liverpool schools were exposed to ETS at least one day, from which one fifth everyday, during last 7 days. Children whose both parents smoke were 12 times in Riga and 7 times in Liverpool more likely to be exposed to second hand smoke at home.

2. 92% Liverpool and 94% Riga knew that smoking is a health hazard. Majority of population stated not smoking if friend offers a cigarette, but ever smokers were less likely to resist to that. 1 in 5 of pupils thought that smokers have more friends. Respondents were more likely to think that girls (35% Liverpool and 49% Riga), who smoke have less friends compared to boys (29% Liverpool and 40% Riga). Girls were less likely to think that boys who smoke have lesser friends and boys were more likely to think opposite about girls. Current smokers were less likely to think that smokers have lesser friends than non-smokers. 82% of youths in Riga and 75% Liverpool thought that smoking makes young people look less attractive. 89% of pupils in Liverpool and 94% in Riga perceived passive smoking as a health hazard. 64% of pupils in Riga thought that children, 36% adults and 68% pregnant woman should never be exposed to ETS, in Liverpool accordingly 65%, 47%, 76% thought the same. Better knowledge was associated with non-smoking and no exposure to ETS at home. Boys in Liverpool were more knowledgeable than girls.

3. After intervention smoking prevalence in Riga decreased by 7% and in Liverpool by only 1%. Frequency of smoking and the number of cigarettes smoked per day decreased in both cities. In Liverpool, percentage of those who would not definitely smoke if one of the best friends offers a cigarette, increased by 7%. Attitudes towards girls and boys smoking and the amount of friends they have and attractiveness slightly changed to less favourable, especially among boys. The increase by 10% in Liverpool and 4% in Riga of those who thought that adults should never be exposed to ETS was
documented. In Liverpool improvement in knowledge was higher in males and non-smokers. More smokers in Riga declared that they would not definitely smoke during next year. In Liverpool increase by 8% of those who would not definitely smoke during next 12 months was documented and twice less of smokers after intervention claimed that they will definitely smoke next year. In Liverpool, the percentages of those who do intend to quit smoking increased by 21%.
7. RECOMMENDATIONS

- Continue changing attitudes and norms in society about tobacco use through increasing public awareness about the adverse health consequences of active and passive smoking;
- Continue working on finding effective ways of preventing children from passive smoking at home;
- Continue work on reducing youth exposure to misleading tobacco industry advertisements and promotion through mass media, movies, videos, TV and other means;
- Promote smoking cessation and its’ benefits, ensure sustainability and a supportive environment to maintain smokers’ decision to stop smoking.
REFERENCES


Retrieved from:
http://www.paho.org/English/AD/SDE/RA/Guide1a_SecondhandSmoke.pdf
(03/11/2010)
42. Health Promotion. Oxford University Press, Australia & New Zeland, 2010
56. Guidelines for school Health programs to prevent tobacco use and addiction. US Department of health and human services. Public health service centers for disease control and prevention, Atlanta, Georgia. Recommendations and reports morbidity and mortality weekly report, Feb. 25, Vol. 43, 1994
62. Aveyard, P., Markham, W.A. and Cheng, K.K. A methodological and substantive review of the evidence that schools cause pupils to smoke. Social Science and Medicine, 58, 2253–2265, 2004
73. Strumylaite L., Kregzdyte R., Vaitkaitiene E. Passive smoking and respiratory illnesses in children, Kaunas Medicine University Biomedical research institute, Medicina, Kaunas, 41 (4), 2005

77. Dawson J, Toolkit for developing and implementing Peer-to-peer and community Engagement interventions. Liverpool Primary Care Trust, 2010


90. Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency, Health Effects of Exposure to Environmental Tobacco Smoke,
(14/09/2010)
91. Ludbrook A., Bird S., Teijlingen V. E. International Review of the Health and
Economic Impact of the Regulation of smoking in public places. University of
Aberdeen, Scotland, p. 29, 53,54, 2005
92. Matheny K B, Weatherman K E. Predictors of Smoking Cessation and Maintenance.
the global youth tobacco survey project. Bull World Health Organ 78:868–76, 2000
94. Fiore M. C. U.S. public health service clinical practice guideline: treating tobacco use
and dependence. Respiratory Care, 45: 1200–62, 2000
Committee on Smoking and Health; February 13, 2003.
96. Krainuwat K. Smoking Initiation Prevention among Youths: Implications for
Community Health Nursing Practice. Journal of Community Health Nursing Vol. 22,
No. 4, pp. 195-204, 2005
97. Gochman D S, Handbook of health behavior research, Relevance for Professionals
98. Longo R. D., Johnson C. J., Kruse L. R., Brownson C. R., Hewett E. J. A prospective
investigation of the impact of smoking bans on tobacco cessation and relapse.
Tobacco Control, 10:267-272, 2001
APPENDIXES

Appendix 1

European Tobacco Project Survey for Young People (Baseline)

1. Have you ever tried or experimented with cigarette smoking, even one or two puffs?
   a. Yes
   b. No

2. How old were you when you first tried a cigarette?
   a. I have never smoked cigarettes
   b. 7 years or younger
   c. 8 or 9 years old
   d. 10 or 11 years old
   e. 12 or 13 years old
   f. 14 or 15 years old
   g. 16 years or older

3. During the past 30 days (one month), on how many days did you smoke cigarettes?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
   g. All 30 days

4. During the past 30 days (one month), on the days you smoked, how many cigarettes did you usually smoke?
   a. I did not smoke cigarettes during the past 30 days (one month)
   b. Less than 1 cigarette per day
   c. 1 cigarette per day
   d. 2 to 5 cigarettes per day
   e. 6 to 10 cigarettes per day
   f. 11 to 20 cigarettes per day
   g. More than 20 cigarettes per day

5. During the past 30 days (one month), how often have you used chew, snuff, or dip?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
6. During the past 30 days (one month), how often have you smoked a water pipe?

   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
   g. All 30 days

7. Do you parents (or guardians) smoke (i.e. cigarettes, cigars or water pipe)

   a. None
   b. Both
   c. Father (or male guardian)
   d. Mother (or female guardian)
   e. I don’t now

8. If one of your best friends offered you a cigarette, would you smoke it?

   a. Definitely not
   b. Probably not
   c. Probably yes
   d. Definitely yes

9. Has anyone in your family discussed with you the harmful effects of smoking?

   a. Yes
   b. No

10. Do you think boys who smoke cigarettes have more or less friends?

    a. More friends
    b. Less friends
    c. No difference from non-smokers

11. Do you think girls who smoke have more or less friends?

    a. More friends
    b. Less friends
    c. No difference from non-smokers

12. Does smoking cigarettes help people feel more or less comfortable at celebrations, parties, or in other social gatherings?

    a. More comfortable
    b. Less comfortable
c. No difference from non-smokers  
d. Don’t know

13. Do you think smoking cigarettes makes young people look more or less attractive?  
   a. More attractive  
   b. Less attractive  
   c. No difference from non-smokers

14. Do you think that smoking cigarettes makes you gain or lose weight?  
   a. Gain weight  
   b. Lose weight  
   c. No difference

15. Do you think cigarette smoking is harmful to your health?  
   a. Definitely not  
   b. Probably not  
   c. Probably yes  
   d. Definitely yes

16. Do any of your closest friends smoke cigarettes?  
   a. None of them  
   b. Some of them  
   c. Most of them  
   d. All of them

THE NEXT QUESTIONS ASK ABOUT EXPOSURE TO OTHER PEOPLE’S SMOKING

17. During the past 7 days, how many times has anyone smoked indoors in your home, in your presence?  
   a. 0  
   b. 1 to 2  
   c. 3 to 4  
   d. 5 to 6  
   e. Everyday

18. Do you think the smoke from others people’s cigarettes is harmful to you?  
   a. Definitely not  
   b. Probably not  
   c. Probably yes  
   d. Definitely yes

19. To what extent, if at all, do you think it’s acceptable for young children to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?
a. They should never be exposed
b. It’s ok occasionally
c. It’s not a problem to be exposed
d. Don’t know/not sure

20. To what extent, if at all, do you think it’s acceptable for adults to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?

a. They should never be exposed
b. It’s ok occasionally
c. It’s not a problem to be exposed
d. Don’t know/not sure

21. To what extent, if at all, do you think it’s acceptable for pregnant woman to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?

a. They should never be exposed
b. It’s ok occasionally
c. It’s not a problem to be exposed
d. Don’t know/not sure

22. When you watch TV, videos, or movies, how often do you see actors smoking?

a. I never watch TV, videos, or movies
b. A lot
c. Sometimes
d. Never

THE NEXT QUESTION MAINLY ASK ABOUT STOPPING SMOKING. Please answer these even if you are not a smoker.

23. At any time during the next 12 months do you think you will smoke a cigarette?

a. Definitely not
b. Probably not
c. Probably yes
d. Definitely yes

24. Do you want to stop smoking now (i.e. stop smoking cigarettes, cigars, water pipe)?

a. I have never smoked
b. I do not smoke now
c. Yes
d. No

25. Do you intent to stop smoking? (i.e. stop smoking cigarettes, cigars, water pipe)?

a. I don’t smoke
b. Yes, I intend to stop smoking within the next month
c. Yes, I intend to stop smoking within the next year
d. Yes, I intend to stop smoking but I do not know when  
e. No, I don’t intend t stop smoking ever

26. How many times did you try to stop smoking during the past year?  
   a. I have never smoked  
   b. I did not smoke during the past year  
   c. None  
   d. Once  
   e. Twice or more often

27. Have you ever received help or advice to help you stop smoking? (Select only one response)  
   a. I have never smoked cigarettes  
   b. Yes, form a programme of health professional (e.g. school nurse or other health worker)  
   c. Yes, from a friend  
   d. Yes, from a family member  
   e. Yes, from both programmes or health professionals and from friends or family members  
   f. No

28. How long ago did you last discuss smoking and health in school?  
   a. This term  
   b. Last term  
   c. Previous school year  
   d. Before previous school year  
   e. Never

29. During this school year, were you taught in any of your classes about the dangers of smoking?  
   a. Yes, by a teacher  
   b. Yes, by a peer  
   c. Yes, by both teacher and peer  
   d. No

30. During this school year, did you discuss in any of your classes the reasons why people your age smoke?  
   a. Yes, with a teacher  
   b. Yes, with a peer  
   c. Yes, with both teacher and peer  
   d. No

31. How old are you?  
   a. 11 years old or younger
b. 12 years old
c. 13 years old
d. 14 years old
e. 15 years old
f. 16 years old or older

32. Are you a boy or girl?
   a. Boy
   b. Girl

33. In what grade/form are you?
   a. Year 6
   b. Year 7
   c. Year 8
   d. Year 9
Appendix 2

European Tobacco Project Survey for Young People (Follow-up)

1. Have you ever tried or experimented with cigarette smoking, even one or two puffs?
   a. Yes
   b. No

2. How old were you when you first tried a cigarette?
   a. I have never smoked cigarettes
   b. 7 years or younger
   c. 8 or 9 years old
   d. 10 or 11 years old
   e. 12 or 13 years old
   f. 14 or 15 years old
   g. 16 years or older

3. During the past 30 days (one month), on how many days did you smoke cigarettes?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
   h. All 30 days

4. During the past 30 days (one month), on the days you smoked, how many cigarettes did you usually smoke?
   a. I did not smoke cigarettes during the past 30 days (one month)
   b. Less than 1 cigarette per day
   c. 1 cigarette per day
   d. 2 to 5 cigarettes per day
   e. 6 to 10 cigarettes per day
   f. 11 to 20 cigarettes per day
   g. More than 20 cigarettes per day

5. During the past 30 days (one month), how often have you used chew, snuff, or dip?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
g. All 30 days

6. During the past 30 days (one month), how often have you smoked a water pipe?
   a. 0 days
   b. 1 or 2 days
   c. 3 to 5 days
   d. 6 to 9 days
   e. 10 to 19 days
   f. 20 to 29 days
   g. All 30 days

7. Do you parents (or guardians) smoke (i.e. cigarettes, cigars or water pipe)
   a. None
   b. Both
   c. Father (or male guardian)
   d. Mother (or female guardian)
   e. I don’t now

8. If one of your best friends offered you a cigarette, would you smoke it?
   a. Definitely not
   b. Probably not
   c. Probably yes
   d. Definitely yes

9. Has anyone in your family discussed with you the harmful effects of smoking?
   a. Yes
   b. No

10. Do you think boys who smoke cigarettes have more or less friends?
    a. More friends
    b. Less friends
    c. No difference from non-smokers

11. Do you think girls who smoke have more or less friends?
    a. More friends
    b. Less friends
    c. No difference from non-smokers

12. Does smoking cigarettes help people feel more or less comfortable at celebrations, parties, or in other social gatherings?
    a. More comfortable
    b. Less comfortable
    c. No difference from non-smokers
d. Don’t know

13. Do you think smoking cigarettes makes young people look more or less attractive?
   a. More attractive
   b. Less attractive
   c. No difference from non-smokers

14. Do you think that smoking cigarettes makes you gain or lose weight?
   a. Gain weight
   b. Lose weight
   c. No difference

15. Do you think cigarette smoking is harmful to your health?
   a. Definitely not
   b. Probably not
   c. Probably yes
   d. Definitely yes

16. Do any of your closest friends smoke cigarettes?
   a. None of them
   b. Some of them
   c. Most of them
   d. All of them

THE NEXT QUESTIONS ASKS ABOUT EXPOSURE TO OTHER PEOPLE’S SMOKING

17. During the past 7 days, how many times has anyone smoked indoors in your home, in your presence?
   a. 0
   b. 1 to 2
   c. 3 to 4
   d. 5 to 6
   e. Everyday

18. Do you think the smoke from others people’s cigarettes is harmful to you?
   a. Definitely not
   b. Probably not
   c. Probably yes
   d. Definitely yes

19. To what extent, if at all, do you think it’s acceptable for young children to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?
   a. They should never be exposed
b. It's ok occasionally
c. It’s not a problem to be exposed
d. Don’t know/not sure

20. To what extent, if at all, do you think it’s acceptable for adults to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?

   a. They should never be exposed
   b. It’s ok occasionally
   c. It’s not a problem to be exposed
   d. Don’t know/not sure

21. To what extent, if at all, do you think it’s acceptable for pregnant woman to be exposed to second-hand smoke (i.e. passive smoking) in enclosed spaces (e.g. in the home or car)?

   a. They should never be exposed
   b. It’s ok occasionally
   c. It’s not a problem to be exposed
   d. Don’t know/not sure

22. When you watch TV, videos, or movies, how often do you see actors smoking?

   a. I never watch TV, videos, or movies
   b. A lot
   c. Sometimes
   d. Never

THE NEXT QUESTION MAINLY ASK ABOUT STOPPING SMOKING. Please answer these even if you are not a smoker.

23. At any time during the next 12 months do you think you will smoke a cigarette?

   a. Definitely not
   b. Probably not
   c. Probably yes
   d. Definitely yes

24. Do you want to stop smoking now (i.e. stop smoking cigarettes, cigars, water pipe)?

   a. I have never smoked
   b. I do not smoke now
   c. Yes
   d. No

25. Do you intend to stop smoking? (i.e. stop smoking cigarettes, cigars, water pipe)?

   a. I don’t smoke
   b. Yes, I intend to stop smoking within the next month
   c. Yes, I intend to stop smoking within the next year
   d. Yes, I intend to stop smoking but I do not know when
e. No, I don’t intend to stop smoking ever

26. How many times did you try to stop smoking during the past year?

   a. I have never smoked
   b. I did not smoke during the past year
   c. None
   d. Once
   e. Twice or more often

27. Have you ever received help or advice to help you stop smoking? (Select only one response)

   a. I have never smoked cigarettes
   b. Yes, form a programme of health professional (e.g. school nurse or other health worker)
   c. Yes, from a friend
   d. Yes, from a family member
   e. Yes, from both programmes or health professionals and from friends or family members
   f. No

28. How long ago did you last discuss smoking and health in school?

   a. This term
   b. Last term
   c. Previous school year
   d. Before previous school year
   e. Never

29. During this school year, were you taught in any of your classes about the dangers of smoking?

   a. Yes, by a teacher
   b. Yes, by a peer
   c. Yes, by both teacher and peer
   d. No

30. During this school year, did you discuss in any of your classes the reasons why people your age smoke?

   a. Yes, with a teacher
   b. Yes, with a peer
   c. Yes, with both teacher and peer
   d. No

31. Did you enjoy the sessions about tobacco and smoking that were led by the peer mentors earlier this school year?

   a. Yes, I enjoyed the a lot
b. Yes, I enjoyed them a little
  c. No, I did not enjoy them
  d. I did not attend the sessions

32. Did the sessions led by the peer mentors earlier this school year increase your understanding about smoking and other tobacco-related issues?
  a. Yes, a lot
  b. Yes, a little
  c. No, not at all
  d. I did not attend the sessions

33. Did the sessions about tobacco and smoking, that were led by the peer mentors earlier this school year, influence you in any of the following ways (select only one response)
  a. They led me to stopping or trying to stop smoking
  b. They had made me more likely to try or stop smoking in the future
  c. They have made me less likely to start smoking
  d. None of these
  e. I did not attend the sessions

34. How old are you?
  a. 11 years old or younger
  b. 12 years old
  c. 13 years old
  d. 14 years old
  e. 15 years old
  f. 16 years old or older

35. Are you a boy or girl?
  a. Boy
  b. Girl

36. In what grade/form are you?
  a. Year 6
  b. Year 7
  c. Year 8
  d. Year 9