

# COMPARISON OF ALCOHOL CONSUMPTION AND ALCOHOL POLICIES IN THE CZECH REPUBLIC AND NORWAY

Helena Hnilicová<sup>1</sup>, Siri Nome<sup>2</sup>, Karolína Dobiášová<sup>1</sup>, Miroslav Zvolský<sup>3</sup>, Roger Henriksen<sup>2</sup>, Elena Tulupova<sup>1</sup>, Zuzana Kmecová<sup>2</sup>,

<sup>1</sup>Institute of Public Health and Medical Law, First Faculty of Medicine, Charles University, Prague, Czech Republic

<sup>2</sup>Bergen University College, Bergen, Norway

<sup>3</sup>Institute of Health Information and Statistics of the Czech Republic, Prague, Czech Republic

## SUMMARY

**Objective:** The Czech Republic is characterized by high alcohol consumption and is well known as the world's biggest consumer of beer. In contrast, the alcohol consumption in Norway is relatively low. In this article, we describe and discuss alcohol policy development in the Czech Republic since the mid-1980s to the present and its impact on the alcohol consumption and compare our findings, including the dynamics of the total alcohol consumption and the development of drinking patterns among young people, with the situation in Norway.

**Methods:** The study uses the methodology of “process tracing”. Selected national statistics, research outcomes and related policy documents were analyzed to identify possible relations between the alcohol consumption and the alcohol policy in two different environments and institutional/policy settings.

**Results:** There was a clear difference in alcohol consumption trends in both countries in the last three decades. Norway was characterized by low alcohol consumption with tendency to decline in the last years. In contrast, the Czech Republic showed an upward trend. In addition, alcohol consumption among Czech youth has been continuously increasing since 1995, whereas the opposite trend has occurred in Norway since the late 1990s. The results revealed that the alcohol-control policies of the Czech Republic and Norway were significantly different during the study period. Norway had a very restrictive alcohol policy, in contrast to the liberal alcohol policy adopted in the Czech Republic, in particular after political transition in 1990. Liberalization of social life together with considerable decline of alcohol price due to complete privatization of alcohol production and sale contributed to an increase of the alcohol consumption in the Czech Republic.

**Conclusions:** Persistently high alcohol consumption among general population and its growth among young people in the Czech Republic pose social, economic and health threats. Norway could provide the inspiration to Czech politicians about effective options in combating these threats.

**Key words:** alcohol, alcohol consumption, alcohol policy, youth, drinking patterns

**Address for correspondence:** H. Hnilicová, Institute of Public Health and Medical Law, First Faculty of Medicine Charles University, Karlovo nám. 40, 128 00 Prague, Czech Republic. E-mail: [helena.hnilicova@lf1.cuni.cz](mailto:helena.hnilicova@lf1.cuni.cz)

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## INTRODUCTION

According to the WHO one in four deaths of European men aged 15–29 is related to alcohol consumption (1). In Eastern Europe, this figure is even higher, at one in three (1). From medical point of view alcohol is considered a teratogen, neurotoxin and carcinogen (2). The excessive consumption of alcohol was identified as one of four common risk factors contributing to the non-communicable diseases epidemic, together with smoking, physical inactivity and unhealthy diets (3), as well as the important issue of the global sustainable development (4). Alcohol consumption was found to increase people's risk of developing more than 200 diseases, with the excessive alcohol consumption leading to violence and injuries (5).

The public health approach to alcohol-related issues is based on the idea that heavy drinking is connected to normal drinking and that the scope and volume of alcohol-related problems, especially

chronic health problems, are determined by the overall level of consumption of alcohol in society (6). Since the 1970s research has demonstrated that a society's total alcohol consumption has a strong harmful effect on the population and that alcohol policies influence the level of consumption (7). In recent years, the wide impact of alcohol consumption has been emphasized. As stated by the UK Chief Medical Officer in a 2008 report “alcohol is too often viewed as a problem for individuals rather than for society. This is not the case. The second-hand effects of alcohol consumption – which I collectively term ‘passive drinking’ – are more complex in their causation than those of passive smoking, and more wide-ranging in their impact” (8). Due to the well-known risks associated with high consumption of alcohol, many countries have developed and implemented specific policy measures to reduce its harmful impacts (8–10). These include increasing taxes on alcohol, limiting the availability of alcohol by raising age limits, state controlling the production and sale of alcoholic

beverages, and regulating the marketing of alcoholic beverages (8–10). Minimum pricing is also considered a promising strategy for reducing the public health burden associated with high alcohol consumption while simultaneously increasing government revenue (11). It is known that alcohol policy measures depend on public attitudes toward alcohol consumption, but on the other hand, the public attitude towards alcohol drinking can be also influenced by policy measures (12–15).

The aim of this study was to describe and analyze Czech alcohol policy and compare it with the situation in Norway, both in terms of the dynamics of total alcohol consumption and the development of drinking patterns among young people. An additional aim was to discuss how changes in political, economic, and social environment can affect alcohol drinking habits in a society.

## MATERIALS AND METHODS

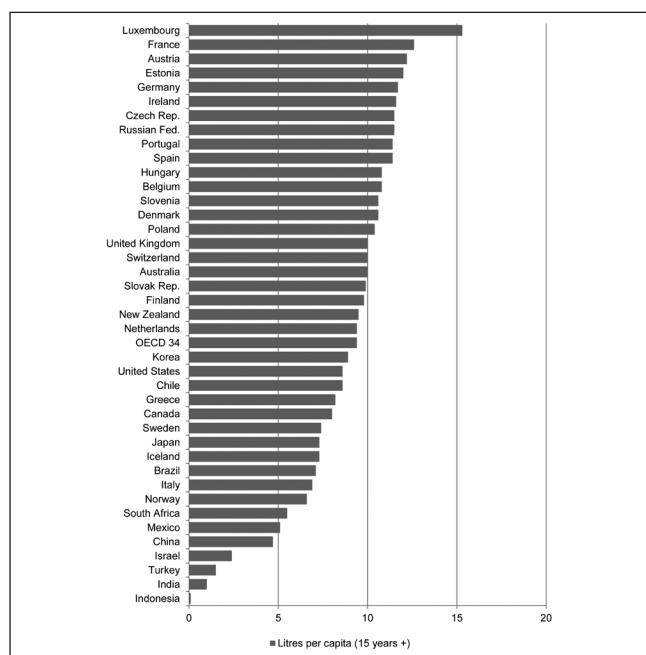
In this study, we used the methodology of “process tracing”. The process tracing is a fundamental tool of the qualitative analysis used to describe both political and social phenomena and to evaluate causal relations (16). In a framework of this study it was used to select, describe and analyze connections between alcohol policy and alcohol consumption trend. We first conducted a review of relevant literature sources, including strategic documents, legislation, Czech and Norwegian national statistics, as well as reflection of alcohol issues in public debate. Although Norwegian, Czech and international alcohol statistics may vary and should be interpreted with caution, they are reasonably good indicators of prevailing inter- and intra-country consumption trends over time (17). In order to achieve a greater degree of objectivity, OECD and WHO alcohol statistics were also used in this study. For Norway, data were obtained from the Norwegian Institute for Alcohol and Drug Research: Alcohol and Drugs in Norway. The Czech data were obtained from the Institute of Health Information and Statistics of the Czech Republic (IHIS). Data from the European School Survey Project on Alcohol and other Drugs (ESPAD) collected in European countries on a regularly basis since 1995 were also used.

## RESULTS AND DISCUSSION

### Comparison of Alcohol Consumption in the Czech Republic and Norway

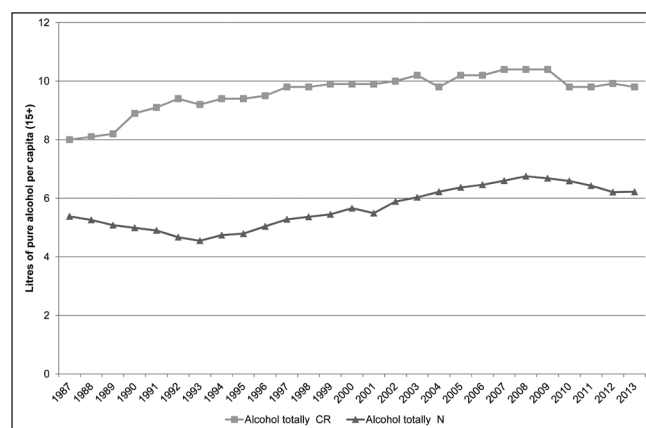
The presented data showed that alcohol consumption per capita in the Czech Republic and Norway was significantly different (Fig. 1, 2).

According to the OECD statistics (2011), Czechs in age 15+ consumed 11.5 litres of pure alcohol per capita compared to 6.6 litres per capita in Norway (Fig. 1). However, national statistics provide different values of per capita pure alcohol consumption for 15+ in both countries: 9.8 litres compared to 6.2 litres (Fig. 2). While in case of Norway difference between OECD and national statistics is minimal, Czech statistics indicate significantly lower pure alcohol consumption compared to OECD data (by about 1.7 litres). On the contrary, relevant WHO data indicate even higher values than the national statistics as well as OECD data:



**Fig. 1.** Alcohol consumption by country.

Source: OECD Health data (2011)

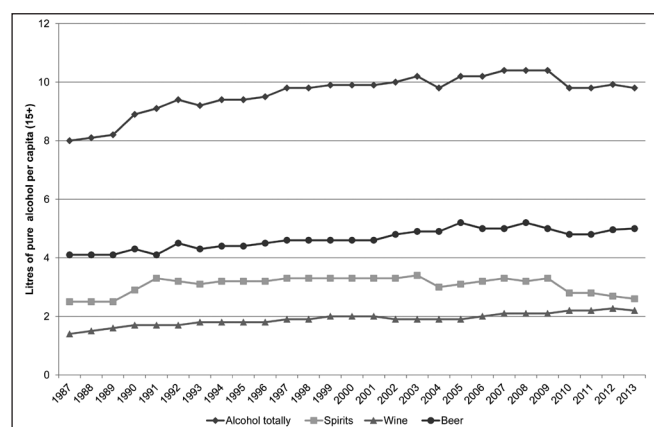


**Fig. 2.** Total annual sales of alcohol, as measured in litres of pure alcohol per capita (15+), in the Czech Republic and Norway from 1987 to 2013.

Source: National statistics

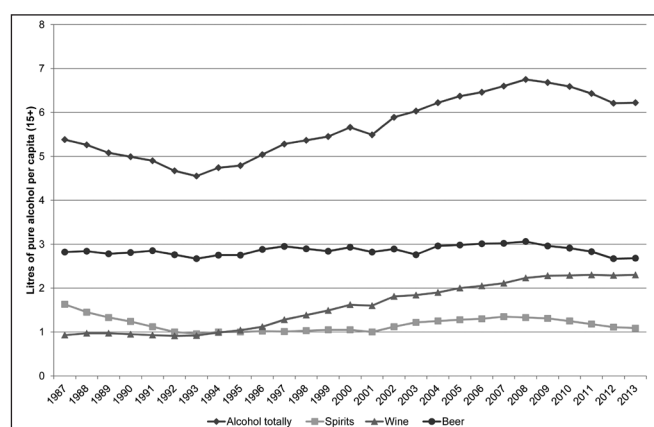
13 litres in the Czech Republic and 7.7 litres in Norway average pure alcohol per capita consumption in 2008–2010 (9). Difference in consumption of pure alcohol per capita between national sources and international statistics can be due to the different estimation of average alcohol content in alcohol beverages. There was a clear difference in consumption trends in both countries. Overall, Norway is characterized by low alcohol consumption with a slight decrease in the last 5 years. In contrast, the Czech Republic showed an upward trend in alcohol consumption in the last two decades (9, 18). Beer represented up to half of the total alcohol consumption in the country, and the consumption of wine and spirits accounted for 30% and 20%, respectively (19). When looked at consumption in terms of total litres of pure alcohol, we can see that the consumption of wine and beer has steadily increased since 2003, whereas the consumption of spirits has fallen slightly. In Norway (2013), beer consumption

also dominated – 44% of pure alcohol consumption, while wine represented 37% and spirit makes 18% (Fig. 4). In Norway, the total consumption in terms of litres of pure alcohol remained relatively stable until the mid-1990s (20). From then until 2008,



**Fig. 3.** Annual sales of alcohol, as measured in litres of pure alcohol per capita (15+), in the Czech Republic.

Source: National statistics



**Fig. 4.** Annual sales of alcohol, as measured in litres of pure alcohol per capita (15+), in Norway.

Source: National statistics



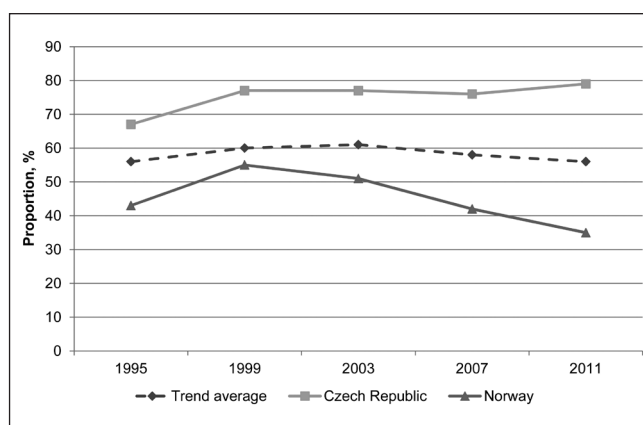
**Fig. 5.** Trends in alcohol consumption among individuals aged 15+ in the Czech Republic from 1980 to 2012.

Source: IHIS 2014

consumption increased sharply, which was attributed mainly to the sale of wine. This could be due to the change in the sale of wine in bottles to bag-in-box wine (20).

When comparing alcohol consumption patterns in the Czech Republic and Norway (Fig. 2–4), we found that the sales per capita of spirits, wine and beer were considerably lower in Norway than in the Czech Republic. In fact, since 2001 Norway has reported the lowest consumption rates in Europe (17, 20), whereas the Czech Republic is among the countries with the highest alcohol consumption during that period. Although the annual consumption of alcohol in Norway has steadily increased since 2007 (Fig. 4), the difference in alcohol consumption between both countries has decreased. There were also visible differences in the trends in drinking patterns with wine the preferred alcoholic beverage in Norway and beer the preferred alcoholic beverage in the Czech Republic. Sales of wine in Norway have been even greater than sales in the Czech Republic since 2002. There is an opposite trend in consumption of spirits in both countries: it declined continuously in Norway, whereas it increased in the Czech Republic. With regard to beer consumption in the Czech Republic, it has remained higher than in Norway, and the consumption is consistently rising.

As shown in Fig. 5, alcohol consumption slightly declined in the Czech Republic under the previous “socialistic” era in 1980–1989. After 1989 the trend changed, and alcohol consumption began to rise. In the first two decades after 1989, the total consumption of litres of alcohol increased by 7%, while the consumption of pure alcohol rose by 27% (19). Such development may have been due to the substitution of low-alcohol beer (7° and 8°, i.e. alcohol volume of 0.5–2%) with beer having a higher alcohol volume (10°, 11°, 12°, i.e. more than 3%). The change in the beer production can be partially explained by lower profitability of cheap (low-alcohol) beer for international retail chains which in that period started their expansion into the Czech market (21). Another reason can be that low-alcohol beer was perceived as “poor-quality” beer. There was an implicit expectation that the production of new brands of alcohol-free beer brands would provide a substitute for former low-alcohol brands (19). However, this did not happen probably also in connection with the gradual growth of purchasing power of the population in the 1990s when consumers began to prefer “better quality” beer, i.e. with higher



**Fig. 6.** Alcohol use among 15–16 years old students during the past 30 days in the Czech Republic and Norway and the average trend in all ESPAD participating countries.

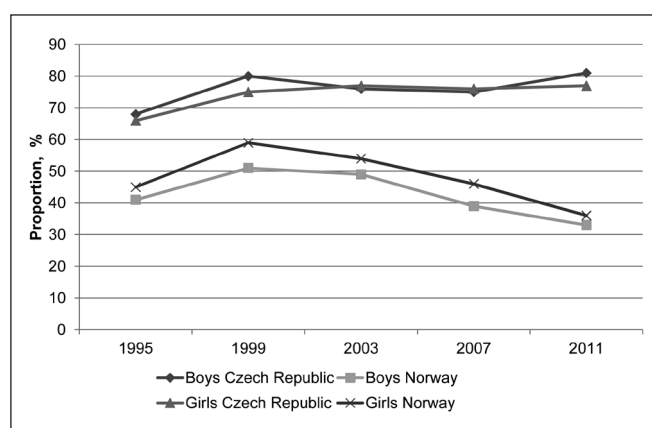
Source: ESPAD Key results generator

alcohol content (21). As beer represented half of the total alcohol consumption, the alcohol content had a significant effect on the total consumption of pure alcohol per capita (19).

Despite the rising trend in alcohol consumption in the post-communist era, we can see temporary decline in the years 2004 and 2010 (Fig. 5). In 2004, it was likely due to increase of excise duty on alcohol, tobacco and some other commodities, which was associated with the Czech Republic membership in the EU and taxes harmonization. In 2009, excise taxes on alcohol were increased as the Government wanted to increase the tax revenues (22).

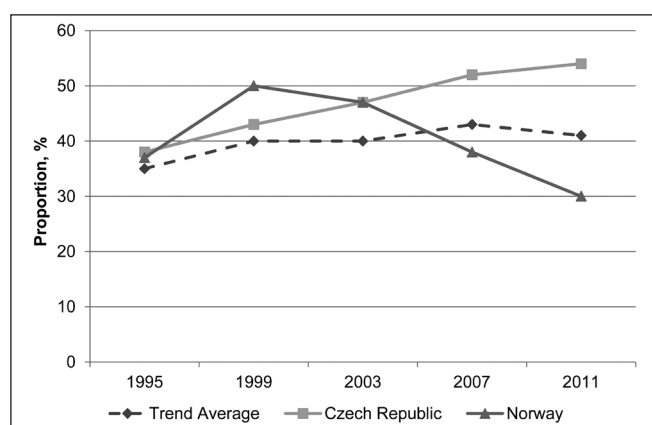
## Comparison of Alcohol Consumption Habits of Czech and Norwegians Teenagers

Alcohol consumption of youth is a specific issue of alcohol policy. The ESPAD data revealed significant between-country differences in the drinking habits of young people of both genders: the number of Czech teenagers who drink alcohol has been increasing since 1995, whereas an opposite trend has been observed in Norway since 1999 (Fig. 6).



**Fig. 7.** The proportion of boys and girls aged 15–16 years in the Czech Republic and Norway, who reported alcohol drinking during the past 30 days.

Source: ESPAD Key results generator



**Fig. 8.** Heavy episodic drinking among 15–16 years old students during the past 30 days in the Czech Republic and Norway and average trend in all ESPAD participating countries.

Source: ESPAD Key results generator

In all the periods analyzed, Czech boys and girls drank more alcohol than Norwegian counterparts (Fig. 6). However, differences in alcohol consumption between Czech and Norwegian youth have increased over the years; it was much less in the mid-1990s (Fig. 6). Noteworthy, since the mid-1990s alcohol drinking among Czech girls has been continuously increasing while trend for Norwegian girls changed to opposite direction in 1999 (Fig. 7).

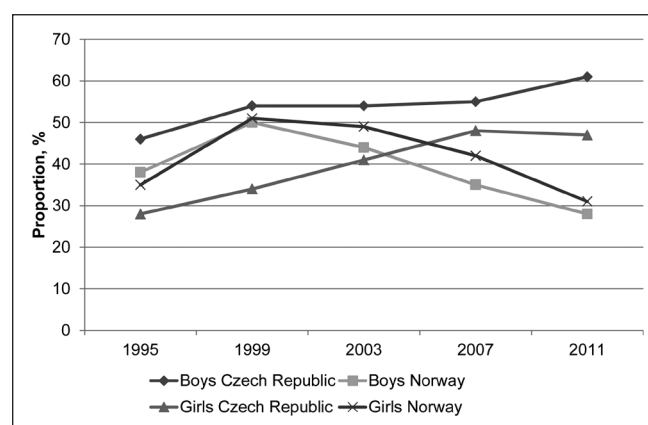
In addition, the results showed that Czech teenagers not only drank more alcohol than their Norwegian counterparts, they also tended to drink in an unsafe manner, with heavy episodic drinking on the rise during 1995–2011. In the same period the ESPAD data demonstrated that binge drinking average of all participating countries increased slightly although it is declining since 2007 (Fig. 8). In Norway binge drinking declined but in the Czech Republic it clearly increased during the last period (Fig. 8). There are clear gender differences in trend. Czech boys report binge drinking more often than Norwegian counterparts and the gap between them was widening during the studied period (Fig. 9). Very unfavourable and dangerous trend has been observed for Czech girls: although two decades ago (1995) they practiced binge drinking less than Norwegian girls, around 2005 Czech girls have overtaken in heavy episodic drinking the Norwegians (Fig. 9).

## Alcohol Policies in the Czech Republic and Norway

### Alcohol policy in the Czech Republic after the Second World War: Laws Related to Alcohol

Alcohol policy in the Czech Republic before World War II (WWII) was relatively restrictive. There was a total ban on the sale of alcohol to those younger than 16 years and a ban on the consumption of spirits at dances to reduce drunkenness (23). Failure to comply with these restrictions was punishable by relatively high financial penalties or prison.

After WWII, shortly after the communists assumed power in 1948 a new law was passed (24). In communist period the alcoholism was considered inconsistent with “socialist morality”. The law targeted mainly children and youth to protect them from the harmful effects of alcohol (24). The principal focus of the law was on the prevention and health education, including



**Fig. 9.** The proportion of boys and girls aged 15–16 years in the Czech Republic and Norway, who reported heavy episode drinking during the past 30 days.

Source: ESPAD Key results generator

the investigation of causes and impacts of alcoholism and the effectiveness of adopted measures (24). A ban on the consumption of alcohol during activities that could endanger health, life, or property was also introduced. The important role in regard to alcohol issue belonged to newly established national committees, i.e. state administration units representing the communist government at a local level. By law, they were allowed to punish drunken individuals who committed minor crimes. Furthermore, the national committees could prohibit the sale of alcohol on certain days of the week or at certain times in local areas. They also had the power to order involuntary residential anti-alcohol treatment for addicted individuals where alcohol consumption adversely affected work or family life. Medical providers could also order people with repeated heavy drinking episodes to participate in alcohol counselling (25). Penalties for serving alcohol to minors under the age of 18 and to intoxicated individuals were significantly increased, and they included imprisonment. In the early 1960s, there was a further legislative amendment (25). It placed more emphasis on measures to combat excessive consumption of alcohol (e.g., limitation of alcohol sales at sports and cultural events) and combating domestic production of alcohol. Further restrictions on alcohol sales occurred in 1973, when the Czech government issued a resolution on measures to combat alcoholism (26). Consequently, the Ministry of Industry and Trade ordered that alcohol could not be sold before 10 a.m. on workdays. Advertisements of alcohol beverages were also prohibited (26). All these measures were gradually introduced into practice and supervised by the Czech Trade Inspection Authority (26) – a major national authority responsible for the monitoring of legal compliance with regulations concerning domestic market. In spite of the strict alcohol policy, high tolerance to alcohol drinking in the society persisted. Some change occurred when the so-called “Dry law” was passed in the former USSR in 1985. Inspired by that law, Czechoslovak leaders became more rigorous about the implementation of laws governing alcohol sales and consumption (27). For example, the ban on the sale of all alcohol before 10 a.m. was monitored at the national level more strictly than before. Drinking alcohol at workplaces was no longer tolerated and the display of alcoholic beverages in shop windows was restricted (26). It can be assumed that all these measures reflected the overall societal approach to alcohol drinking that was slowly changing toward lower tolerance (28) and as result the total alcohol consumption declined by 1980s (Fig. 6).

Prior to the collapse of the communist government in 1989, another law was introduced (29). The new law defined alcoholism as a “negative phenomenon, causing significant damage to health and social relations”, which should be prevented. It primarily emphasized prevention of alcohol abuse and included further restrictive measures, such as a total ban on selling and drinking all alcoholic beverages in schools and health facilities, canteens, and at all events attended by young people, such as dances and discotheques. Since the law was enacted shortly before the fall of the communist regime in 1989, its effect was not fully applied.

### **Czech Alcohol Policy in the Post-Totalitarian Era: 1989 to the Present**

Generally, in the post-communist decades, there was a pronounced effort to minimize interference with individual rights and

to emphasize the individual responsibility of those who abused drugs or alcohol. The power of medical and state administrative authorities to impose alcohol abuse treatment on addicted individuals was abolished by the Decision of the Constitutional Court in 1997 (30). Although the law from 1989 remained in force relatively unchanged until 2005, alcohol drinking ceased to be a policy issue. Newly acquired political and economic freedom introduced completely different topics to public debate. In general, societal and political environment in the country gradually became much more liberal and unfortunately also more “alcohol friendly,” with resulting impacts on alcohol consumption (Fig. 5). Some former government regulations concerning alcohol expired. The stress associated with economic and political reconstruction of society in a very short time created a favourable environment for the expansion of alcohol drinking. Of critical importance is the fact that, in new market economy after 1989, alcohol production and alcohol sale were completely privatized and left to market forces. The prices of all alcoholic beverages in relation to the purchasing power of the population significantly declined compared to the situation before the political change, where all prices, not only alcohol beverages, were totally controlled by the state. Recent comparison analysis of price affordability in the years 1989 and 2012 showed that in 2012 wine and spirits were even about two-third cheaper than in 1989 (31). As shown by a comparison of alcohol prices in the European Union in 2012, those in the Czech Republic are among the lowest, with beer prices among the cheapest (32). However, in the reaction to the increasing drug abuse and alcohol consumption in a society, a new law was adopted in 2005 (33, 34). In principle, the law reflected new risks associated with the distribution of hard drugs, which had not been available before 1989 due to the “iron curtain.” Alcoholism did not command as much policy attention as drug addiction. Despite its declared intention to reduce alcohol consumption, especially among the youth, the law was more liberal. For example, there was no longer a nationwide ban on alcohol at dances and in canteens. This law is also “softer” than previous law with regard to sanctions: the Act of 1989 (29) obliged responsible bodies to impose fines on citizens and organizations breaching this law, whereas the Act of 2005 left the action in some instances up to the discretion of the responsible body (33). Under the law from 2005 emphasis was placed on the treatment of addicted individuals. Alcoholism was considered mainly medical problem to be treated. The affordability of alcohol was minimally restricted. There was a ban to sell alcohol beverages in health and school facilities. No nationwide restrictions on the time of the day when alcohol could be sold were introduced.

Recently, a new “Act on the health protection from harmful effects of addictive substances” has come into force (35). The new law does not introduce any substantial changes related to alcohol except the ban on the sale of alcohol in vending machines.

When we summarize the alcohol policy in the Czech Republic after 1989, none of well-known and proven alcohol treatment policy measures such as high taxes, restrictions on the availability or the ban on advertisement are applied. We can speculate that it can be, at least partially, a result of the powerful and effective lobbying of alcohol industries. The only long-term measures that have been implemented are school-based preventive programmes focusing on health literacy of children and youths (36, 37). However, the Czech experience shows that implementation of such

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programmes in a pro-alcohol environment with extremely low alcohol price are unlikely to be effective in reversing negative alcohol consumption patterns. Research has shown that despite the total ban on the sale of alcohol to individuals under 18 they have no problem accessing alcohol (38). Although high alcohol consumption among minors is considered a major health threat for the future society development (37, 39, 40), high tolerance to alcohol drinking in the Czech society persists (36, 41).

### **Norwegian Alcohol Policy after 1980**

The results revealed that the alcohol policies of Norway and the Czech Republic were very different, with Norway one of the leaders in Europe in executing effective alcohol control policies. The Norwegian 1989 Act on the Sale of Alcoholic Beverages stated that the aim of the act was to reduce alcohol-related damage at both societal and individual levels. This forms the cornerstone of alcohol policy in Norway that consists of high taxes on alcohol, prohibition of the advertisement and marketing of alcohol, and restricted access to alcohol. The latter includes a state monopoly on off-premise sales of wine and spirits (14, 42). Over the decades, these pillars are still strong, although licenses to sell alcohol have become easier to obtain, and the number of municipalities with such licenses has increased (14).

Since the mid-1990s, all Nordic countries, including Norway, came under pressure to weaken their restrictive alcohol control policies, with the main concerns relating to access to alcohol and governments' monopoly on retail sales of alcohol. This trend was closely connected with membership in the EU and European Economic Area when all Nordic countries became aware of the fact that the monopoly system was in fundamental incompatibility with the principals of the EU single market. In 1997, the European Court of Justice declared that monopolies on alcohol sales were not in conflict with the relevant Single Market legislation. Despite the Court's decision, alcohol policy in the Nordic countries was later significantly liberalized. According to previous research, Europeanization had less of an effect on alcohol policies in Norway than in other Scandinavian member countries of the EU because Norway did not become a full member of the EU (13). Although changes did occur in Norway, the state monopoly on retail sales of wine and spirits remained. The most significant changes have been in the area of access to alcohol, with self-service sales replacing over-the-counter sales and the state monopoly taking phone or Internet orders for alcohol deliveries to private residences (14). The prices of alcohol also changed over time in Norway, with some differences between the prices of beer, wine and spirits (14). However, when adjusted for real wages, alcohol affordability remained relatively stable from 1980 to 1999. After the millennium, the affordability of all types of alcohol-containing beverages increased significantly. When adjusted for real wages, wine and beer were about 30% cheaper, and spirits were about 40% cheaper in 2011 as compared with 1985 (14). Compared with the average prices of alcohol in the EU, the prices in Norway are currently about 2.5 times higher. Compared with other Nordic countries, the prices of alcohol in Norway are about twice as high as in Denmark and 80% higher than in Sweden (14). When comparing Norway and the Czech Republic – Norwegian alcohol price belong to the most expensive and the Czech price to the cheapest in Europe (32).

Thus, despite some degree of liberalization over time, Norway maintains efficient alcohol-control policies (14). The degree of restriction is frequently the subject of political debate, often covered in the media. A recent study showed that the number of Norwegians that support a restrictive alcohol policy increased between 2005 and 2012 (42). According to that study, in 2012, 44% of the respondents disagreed that the price of alcohol was too high, and 85% disagreed that it was too difficult to buy alcohol. Moreover, an increasing number of Norwegians believe that it is possible to reduce alcohol-related damage through control of access and prices. The number of Norwegians that support a restrictive alcohol policy increased between 2005 and 2012 (43).

### **CONCLUSIONS**

The comparison of the alcohol policies of Norway and the Czech Republic revealed significantly different approaches to the alcohol consumption control throughout the study period. The restrictive alcohol policy in Norway contrasts with the liberal approach applied in the Czech Republic. In contrast to Norway, the Czech government after 1989 liberalized its alcohol control policies, including abolishing some former restrictive measures.

The increase in alcohol consumption in the Czech Republic, particularly the high level of consumption among young people, can be attributed to the complex of social changes and economic and political decisions implemented in the country during the 1990s. Undoubtedly, the permissive societal approach to alcohol related issues played a critical role in such development. The increase in alcohol drinking was not adequately reflected in policy discourse. Alcohol addiction is basically considered a medical problem, which needed to be treated. From a public health point of view, a marginalization of restriction policies on the alcohol availability can be considered the great weakness of the current Czech alcohol policy.

On the contrary, in Norway the emphasis has always been on addressing the drinking culture and per capita consumption. Restrictions on alcohol availability are prioritized over focus on treatment of alcoholism and "sick" or addicted individuals. The alcohol-control policies of Norway have resulted in long-term low alcohol consumption and different alcohol-consumption habits in Norwegian society compared to those in Czech society.

Comparison of development of alcohol consumption and alcohol policy in two different countries revealed a mutual relation between alcohol policy and alcohol drinking habits. The alcohol control policies of Norway can provide inspiration to Czech politicians for effective options to combat high alcohol consumption.

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### **Conflict of Interests**

None declared

## REFERENCES

- Alcohol - number-one killer of young men in Europe. One in four. Health ministers gather to review new evidence and take action to save young people's lives [Internet]. 2000 [cited 2015 Oct 2]. Available from: <http://www.boes.org/world/europe/who010219alc.html>.
- Anderson P. Tackling alcohol-related harms. In: McDaid D, Sassi F, Merkur S. Promoting health, preventing disease: the economic case. New York: Open University Press; 2015. p. 81-100.
- World Health Organization. Media centre. Non-communicable diseases [Internet]. Geneva: WHO; 2015 [cited 2016 Jun 2]. Available from: <http://www.who.int/mediacentre/factsheets/fs355/en/>.
- Collin J, Casswell S. Alcohol and the sustainable development goals. *Lancet*. 2016 Jun 25;387(10038):2582-3.
- Gruenewald PJ. Regulating availability: how access to alcohol affects drinking and problems in youth and adults. *Alcohol Res Health*. 2011;34(2):248-56.
- Skog OJ. Public health consequences of the J-curve hypothesis of alcohol problems. *Addiction*. 1996 Mar;91(3):325-37.
- Bruun K, Edwards G, Lumio M, Mäkelä K, Pan L; World Health Organization. Alcohol control policies in public health perspective. Helsinki: Finnish Foundation for Alcohol Studies, WHO Europe/Addiction Research Foundation, Ontario; 1975.
- Donaldson L; Chief Medical Officer. 150 Years of the Annual Report of the Chief Medical Officer: on the state of public health 2008. London: Crown; 2009.
- World Health Organization. Management of substance abuse. Global status report on alcohol and health 2014 [Internet]. Geneva: WHO; 2015 [cited 2015 Oct 12]. Available from: [http://www.who.int/substance\\_abuse/publications/global\\_alcohol\\_report/en/](http://www.who.int/substance_abuse/publications/global_alcohol_report/en/).
- Xu X, Chaloupka FJ. The effects of prices on alcohol use and its consequences. *Alcohol Res Health*. 2011;34(2):236-45.
- Stockwell T, Zhao J, Giesbrecht N, Macdonald S, Thomas G, Wettlaufer A. The raising of minimum alcohol prices in Saskatchewan, Canada: impacts on consumption and implications for public health. *Am J Public Health*. 2012 Dec;102(12):e103-10. doi: 10.2105/AJPH.2012.301094.
- Saglie J. Attitude change and policy decisions: the case of Norwegian alcohol policy. *Scand Polit Stud*. 1996;19(4):309-27.
- Karlsson T. Nordic alcohol policy in Europe: the adaptation of Finland's, Sweden's and Norway's alcohol policies to a new policy framework, 1994-2013. Helsinki, Finland: National Institute for Health and Welfare; 2014.
- Rosow I, Storvoll EE. Long-term trends in alcohol policy attitudes in Norway. *Drug Alcohol Rev*. 2014 May;33(3):220-6.
- Public Opinion Research Centre. Public attitudes towards consumption of some addictive substances – May 2015 [Internet]. Prague: Academy of Sciences of the Czech Republic, Institute of Sociology; 2015 [cited 2016 Feb 12]. Available from: [https://cvvm.soc.cas.cz/media/com\\_form-2content/documents/c6/a4009/f77/ob150629.pdf](https://cvvm.soc.cas.cz/media/com_form-2content/documents/c6/a4009/f77/ob150629.pdf). (In Czech.)
- Collier D. Understanding process tracing. PS, Political Science & Politics. 2011;44(4):823-30.
- Bryhni A, editor. Alcohol and drugs in Norway 2007. Oslo: Norwegian Institute for Alcohol and Drug Research; 2007.
- OECD. Tackling harmful alcohol use country note - Czech Republic [Internet]. OECD [cited 2016 Feb 12]. Available from: <http://www.oecd.org/czech/Tackling-Harmful-Alcohol-Use-Czech-Republic-en.pdf>.
- Štiková O. Development of beverages consumption in the CR. *Výživa a potravin*. 2010;65(2):51-5. (In Czech.)
- Skrętting A, Bye EK, Vedøy TF, Lund KE, editors. Drugs in Norway 2014: alcohol, tobacco, addictive substances, drugs, inhalants, doping and services [Internet]. Oslo: SIRUS; 2015 [cited 2017 May 30]. Available from: [https://wordpress.idium.no/wp\\_sirus\\_no/wp-content/uploads/2015/03/RIN2014norsk.pdf](https://wordpress.idium.no/wp_sirus_no/wp-content/uploads/2015/03/RIN2014norsk.pdf). (In Norwegian.)
- History of Velké Popovice brewery [Internet]. Pivovary.info [cited 2016 Mar 16]. Available from: [http://www.pivovary.info/prehled/kozel/kozel\\_h.htm](http://www.pivovary.info/prehled/kozel/kozel_h.htm). (In Czech.)
- Šoman M. The impact of change of excise rates on alcohol on collection of this tax in the Czech Republic during the period 2005 – 2014 [dissertation] [Internet]. Prague: University of Economics; 2015 [cited 2017 June 15]. Available from: <https://insis.vse.cz/zp/50834/podrobnosti>. (In Czech.)
- Act No. 86 on restricting the serving of alcoholic beverages of February 17, 1922. *Sbírka zákonů a nařízení ČSR*. 1922 Mar 18;Pt 26:295-6. (In Czech.)
- Act No. 87 on combating alcoholism of April 15, 1948. *Sbírka zákonů a nařízení ČSR*. 1948 May 4;Pt 35:801-3. (In Czech.)
- Act No. 120 on combating alcoholism of December 19, 1962. *Sbírka zákonů ČSSR*. 1962 Dec 27;Pt 65:567-70. (In Czech.)
- Štěpánková Z. Not only consequences to be treated. *Rudé Právo*. 1987;67(56):4. (In Czech.)
- Sovinová H, Csémy L. Cigarette smoking and alcohol drinking in the Czech Republic [Internet]. SZÚ Praha; 2006 [cited 2016 Mar 16]. Available from: [http://www.szu.cz/uploads/documents/czzp/aktuality/Koureni\\_20a\\_20Alkohol.pdf](http://www.szu.cz/uploads/documents/czzp/aktuality/Koureni_20a_20Alkohol.pdf). (In Czech.)
- Czech Television. CT 24. Alcohol, scourge of humanity [Internet]. Czech Television; 2013 [cited 2016 Mar 16]. Available from: <http://www.ceskatelevize.cz/ct24/archiv/1114024-alkohol-metla-lidstva>. (In Czech.)
- Act No. 37 on protection against alcoholism and other addictions of March 28, 1989. *Sbírka zákonů ČSSR*. 1989 Apr 3;Pt 10:373-8. (In Czech.)
- Constitutional Court judgment No. 299 of September 30, 1997 on the proposal to repeal § 9. 4 Czech National Council Act No. 37/1989 Coll., on protection against alcoholism and other addictions. *Sbírka zákonů ČR*. 1997 Dec 9;Pt 100:5802-4. (In Czech.)
- Štiková O. Development of consumption of food during last 20 years [Internet]. Prague: Forum of healthy nutrition; 2014 [cited 2016 Mar 16]. Available from: <http://www.fzv.cz/levneji-uz-to-nejde/>. (In Czech.)
- Eurostat. Statistics Explained. File: Price level indices for food, beverages and tobacco, 2012, EU-27=100 p.png [Internet]. Eurostat; 2013 [cited 2016 Mar 16]. Available from: [http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Price\\_level\\_indices\\_for\\_food\\_beverages\\_and\\_tobacco\\_2012\\_EU-27%3D100\\_p.png&oldid=136474](http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Price_level_indices_for_food_beverages_and_tobacco_2012_EU-27%3D100_p.png&oldid=136474).
- Act No. 379 on protection from harm caused by tobacco, alcohol, and other addictive substances of August 19, 2005. *Sbírka zákonů ČR*. 2005 Oct 1;Pt 133:7093-101. (In Czech.)
- The explanatory memorandum to the Act. No. 379 on protection from harm caused by tobacco, alcohol, and other addictive substances of August 19, 2005 [Internet]. [cited 2016 Sep 5]. Available from: <https://www.psp.cz>. (In Czech.)
- Act No. 65 on the health protection from harmful effects of addictive substances of January 19, 2017. *Sbírka zákonů ČR*. 2017 Mar 3;Pt 21:671-704. (In Czech.)
- National strategy of anti-drug policy 2010-2018 revised in 2014 [Internet]. Government of the Czech Republic; 2014 [cited 2016 May 3]. Available from: [http://www.vlada.cz/assets/ppov/protidrogova-politika/strategie-a-plany/strategie\\_revize.pdf](http://www.vlada.cz/assets/ppov/protidrogova-politika/strategie-a-plany/strategie_revize.pdf). (In Czech.)
- The Action Plan no. 4c To limit the damage caused by alcohol in the Czech Republic for the period 2010-2018 [Internet]. Ministry of Health of the Czech Republic [cited 2015 Oct 12]. Available from: [http://www.mzcr.cz/Admin/\\_upload/files/5/ak%C4%8Dn%C3%AD%20pl%C3%A1ny%20-%20p%C5%99%C3%ADlohy/AP%2004c\\_rev%20AV.pdf](http://www.mzcr.cz/Admin/_upload/files/5/ak%C4%8Dn%C3%AD%20pl%C3%A1ny%20-%20p%C5%99%C3%ADlohy/AP%2004c_rev%20AV.pdf). (In Czech.)
- Chomynová P, Csémy L, Grolmusová L, Sadílek P. European school study on alcohol and drugs ESPAD: results of the survey in the Czech Republic 2011. Prague: Office of the Government of the Czech Republic; 2014. (In Czech.)
- Csémy L, Sovinová H, Procházka B. Risky and harmful alcohol consumption in young adults: social and demographic context. *Prakt Lek*. 2011;91(11):656-61. (In Czech.)
- Hnilicová H, Dobíášová K, Tulupová E. Primary care and health promotion in the Czech Republic. *Prakt Lek*. 2012; 92(10-12):565-72. (In Czech.)
- Action alcohol confirmed high tolerance to alcohol consumption at us [Internet]. Government of the Czech Republic; 2014 [cited 2016 May 3]. Available from: <http://www.vlada.cz/cz/ppov/protidrogova-politika/media/akce-alkohol-odhalila-stovky-opilych-deti-a-potvrдила-vysokou-toleranci-ke-konzumaci-alkoholu-u-nas-139322/>. (In Czech.)
- Holder HD, Köhlhorn E, Nordlund S, Österberg E, Romelsjö A, Ugland T. European integration and Nordic alcohol policies: changes in alcohol controls and consequences in Finland, Norway and Sweden, 1980-1997. Aldershot: Ashgate Publishing Company; 1998.
- Storvoll EE, Halkjelsvik T. Changes in Norwegian public opinion on alcohol policy, 2005-2012. *Nord Stud Alcohol Drugs*. 2013;30(6):491-506.

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