

# ALCOHOL AND TOBACCO USE IN SPORT COACHES

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## Abstract:

Sport coaches are a population with its specific characteristics and because of their association with the athletes, especially young ones, their lifestyle habits deserve attention. The aim of this study was to determine the habits related to alcohol consumption and smoking in the Croatian sport coaches. The study was conducted on 56 women and 147 men, coaches of various sport disciplines in 2012. AUDIT questionnaire, related to alcohol consumption, and FTND questionnaire, to determine nicotine addiction, were used. Most of the sports coaches of both genders have no problems with alcohol and their nicotine addiction is weak on average, although there are some very serious nicotine addicts.

**Key words:** *sports coaches, drinking, AUDIT, smoking, FTND*

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## Introduction

Nicotine, alcohol and being overweight have been recognized by the World Health Organization (WHO) as risk factors responsible for a substantial share in the leading causes of illness and death (WHO, 2002). Proper identification, intervention and actions undertaken at global level may seriously reduce the share of these health risks in the overall morbidity and mortality.

Consumption of alcohol has been present for centuries in the world population, but various positive and negative effects of consumption have been observed only recently (Rehm, Gutjahr, & Gmel, 2001). In the last ten years there has been a perceived increase in alcohol consumption, especially in developing countries, causing many health and social problems. Globally, alcohol is responsible for the deaths of 1.8 million people; it is directly linked to issues of intoxication and addiction; and it is considered to be a cause of 20-30% of esophageal cancer, liver cirrhosis, liver cancer, suicide, epilepsy and motor vehicle accidents (WHO, 2002).

Consumption of cigarettes, other nicotine products and exposure to nicotine smoke is the leading preventable cause of death, responsible for the deaths of an estimated 5 million people a year, mostly of the lower socio-economic status. The greatest increase in the use of nicotine products has been observed in economically less developed countries, especially among young people and women.

In the industrialized countries, where smoking cigarettes has a slightly declining tendency, it has been estimated that it has caused about 90% of lung cancer in men and about 70% of lung cancer in women. Besides that, smoking has been associated with 56-80% of chronic respiratory diseases and 22% of cardiovascular diseases. Smoking cigarettes does not constitute a health risk only for smokers but also for other people as well – the so called passive smoking is also considered a health risk, whereas smoking during pregnancy affects fetal development (WHO, 2002, 2010).

Initiation into cigarette smoking as well as into alcohol consumption is associated with the influence of friends, parents or older siblings (Epstein, Bang, & Botvin, 2007). Sport coaches are a specific population since they are in contact with children as well as adults. While dealing with children they can very often become idols and children will try to copy their behavior.

The aim of this study was to determine the habits and levels of nicotine addiction and habits related to alcohol consumption in the Croatian sport coaches, with special focus on probable gender differences.

## Methods

The study was conducted in 2012 on a sample of 203 sports coaches of various sports disciplines who have voluntarily agreed on being tested. The res-

pondents anonymously completed surveys related to alcohol consumption and smoking habits. They were asked to complete the questionnaire AUDIT (The Alcohol Use Disorders Identification Test; Allen, Reinert, & Volk, 2001; Babor, Higgins-Biddle, Saunders, & Monteiro, 2001), used to identify alcohol dependence, as well as the questionnaire FTND (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991; Fagerstrom, 2012), used to determine nicotine addiction. Shortly before completing the questionnaires, the respondents were introduced to the goal of study, the way of completing the questionnaires and the way in which their data was protected. The Ethical Committee of the Faculty of Kinesiology, University of Zagreb, for the Use of Human and Animal Subjects in Research provided ethical approval for the study.

The data collected in the survey were analyzed with the statistical software package STATISTICA for WINDOWS. Frequency of responses as well as means and standard deviations that estimated addictions were identified. The Student *t*-test was conducted to examine differences in AUDIT and FTND scores between the male and female sports coaches, while Pearson  $\chi^2$ -test was used to test differences in the frequency of responses connected with smoking behaviors in males and females.

## Results

Table 1 shows the basic descriptive statistical parameters (mean and standard deviation) of the sample and the degree of alcohol (AUDIT) and nicotine (FTND) addiction, as well as the average age at which smoking was initiated. Table 2 shows the frequency of responses to the survey related to smoking, in particular for women and men.

There were 56 female and 147 male coaches in the surveyed sample. The average age of women

was 24.3 years, whereas men were slightly older, averaging 27.1 years. Also, women generally started smoking cigarettes earlier and had a slightly higher level of nicotine addiction, while the average AUDIT score was significantly lower in female coaches.

It is evident from the results shown in Table 2 that in the surveyed sample there were 34 women who had never smoked, 8 former smokers and 8 of those who wanted to quit, while there were 6 of those who did not want to stop smoking. In men, 94 had never smoked, while 24 were ex-smokers. Only 6 of the smokers had not quit, while 23 were trying to quit. The results of the Pearson's  $\chi^2$ -test of gender difference in these parameters did not show any significant difference ( $p < .001$ ) between the male and female coaches.

## Discussion and conclusions

AUDIT questionnaire is widely used in broad populations for determining the habits of alcohol consumption and assessing addiction with equal success in both women and men (Aalto, Alho, Halme, & Seppä, 2009). On the basis of answers, graded differently (from 0 to 4), to 10 questions an index value was calculated that revealed the existence of a possible alcohol addiction or a risk of the same (Donovan, Kivlahan, Doyle, Longabaugh, & Green-field, 2006). A sum of eight or above indicates the presence of a hazardous and harmful drinking behavior. A more reliable and detailed information about the habits of the person being tested are, of course, provided by an analysis of individual responses.

The surveyed coaches' averaged total AUDIT-sum values were significantly below the limit of eight points, which clearly indicates that most coaches did not have problems with alcohol. However, the span of the AUDIT results shows that there were individual

Table 1. Basic descriptive statistical parameters (mean $\pm$ SD) of age, starting age of smoking and nicotine and alcohol addiction

	Women	Men	t-test
Age (years)	24.27 $\pm$ 4.19	27.12 $\pm$ 6.99	1.14 (NS)
Age of onset of smoking (years)	16.41 $\pm$ 0.91	17.43 $\pm$ 4.40	1.05 (NS)
Degree of nicotine addiction	3.21 $\pm$ 2.60	3.02 $\pm$ 2.01	0.32 (NS)
AUDIT	4.55 $\pm$ 0.48	5.76 $\pm$ 0.33	20.02 (S, $p < .001$ )

NS – non significant, S - significant

Table 2. Number of non-smokers, ex-smokers and smokers who want or do not want to stop smoking

	Women	Men	$\chi^2$ test
Non-smoker who has never smoked	34	94	NS
Former smoker (at least 6 months without a cigarette)	8	24	NS
Smoker who does not want to give up	6	6	NS
Smoker who wants to quit	8	23	NS

NS – non significant

coaches with an alcohol problem. Consistent with the findings of most previous studies, male gender was strongly associated with alcohol use. In women, only four interviewees were above the threshold (AUDIT 11, 14 and 23), while even 21% of men were above the value of eight (AUDIT 9-26). When we look more closely at the response frequencies, it can be concluded that most coaches, who were above the given limit of eight points, gained their points in a few AUDIT questions at the beginning (How often do you consume alcoholic beverages? How many drinks do you normally drink when you drink alcohol? How often do you drink 6 or more drinks on one occasion?), which definitely indicated risky behavior associated with alcohol, but there was a lesser portion of those who had a higher number of points collected in the questions that pointed to the existence or the initial dependence on alcohol, or questions that suggested that the damage of alcohol had already been experienced (for example: How often has it happened, during last year, that you couldn't remember what had happened the night before because you have had too much to drink? Have either you or someone else been injured as a result of you drinking too much?).

It is very well known that large amounts of alcohol have an extremely detrimental effect on most of the organs in one's body (Longo, et al, 2004). Numerous scientific studies have established the existence of a J-shaped (J-shaped relationship; Gunzerath, Faden, Zakhari, & Warren, 2004) relationship between alcohol consumption and health, with the lowest mortality and morbidity rate in people who drink little or moderately. Moderate drinking implies consuming no more than two drinks a day for a healthy person (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2010). The lower total mortality rate in people who moderately consume alcohol is mainly associated with a lower risk of coronary heart disease. Several studies (Abou-agag, et al, 2005; Milošević, Mustajbegović, Abdović, Šulentić, & Pucarín-Cvetković, 2007; Klatsky, 2010; Rabai, 2012) have linked it with antioxidant and anti-thrombotic substances present in wine, especially red wine, which has a potentially beneficial effect against atherotrombotic diseases or carcinomas. According to Klatsky and his associates (Klatsky, Friedman, Armstrong, & Kipp, 2003), based on a large study conducted in California on a sample of over 12 000 individuals, it has been found that moderate wine consumption is associated with the lowest risk of coronary heart disease as well with as the lowest mortality rate from all causes. They have also ascertained that people who moderately drink beer or spirits have a lower mortality rate than those who never drink.

The surveyed coaches of both sexes mostly drunk wine and beer; women preferred wine and

men beer. Sweet alcoholic drinks (liqueurs) were not common, while hard liquor was drunk only by a small number of coaches.

The results show that 25% of female sport coaches smoked while the percentage of male coach smokers was significantly lower and it was 19.7%; also there was a slightly higher number of men who wanted to stop smoking (15.03% vs. 14.29%, respectively). Compared with the population of teachers of physical education in Croatia the number of male smokers is almost identical, while the percentage of women coaches who smoke was slightly higher than the percentage of women teachers who smoke (Mišigoj-Duraković, Duraković, Ružić, & Findak, 2004). When compared with the population of athletes in Croatia or in other countries, it is evident that athletes of both sexes smoke less than their coaches (Kondrič, Sekulić, & Furjan Mandić, 2010; Diehl, Thiel, Zipfel, Mayer, & Schneider, 2012), so Lisha and Sussman (2010), while reviewing a number of studies that deal with smoking among athletes, have concluded that sport can be a protective factor against smoking among young people.

Age of smoking commencement is similar for men and women, but women are still, on average, starting to smoke earlier than men. The average frequency of smokers among coaches of both sexes is significantly lower, almost double, than in the average peer population in Croatia (Čorić, Hrabak-Žerjavić, Kuzman, & Mayer, 2006). Unfortunately, smoking is a habit that is widespread in Croatia despite the extensive campaign against smoking, also unfortunately, the number of deaths associated with smoking (e.g. tracheal, bronchial or lung cancer) is still very high (Jha & Chaloupka, 2000; Samet & Yoon, 2001). According to the Croatian National Institute of Public Health, the estimated number of smoking-related deaths accounted for 17.9% of the total deaths in the year 2007 (Hrabak-Žerjavić & King, 2010). It is encouraging that most of the smokers of both sexes are inclined to give up the habit. An interesting data from the research of Matković and associates (Matković, Swalgin, & Knjaz, 2007) has been that, unlike among the Croatian coaches, there are no smokers among the American coaches. It is probably a result of the fight against smoking, which in the United States has been going on much longer than in Europe.

Among the surveyed coaches there were eight female and 23 male former smokers. According to the responses related to the reason of quitting, most respondents said that it was due to health concerns. This confirms that the campaign that is being conducted around the world against smoking continuously, showing all the harmful effects of smoking, is gradually producing results (Stillman, Hartman, Graubard, Gilpin, Murray, & Gibson, 2003). Those who had tried to stop smoking but



failed the most common reason for it, in their opinion, in insufficient persistence and in impact of their friends, but also of the whole society.

The FTND questionnaire (Fagerström Test for Nicotine Dependence) was constructed in 1991 (Heatherton, et al, 1991). It was constructed by correlating questions in the questionnaire created by Fagerström (1978) to the biochemical indicators of nicotine addiction (extracted carbon monoxide, nicotine in saliva and other parameters) to create the final questionnaire which was given a scale that expresses nicotine addiction. The results are ranked from 1 to 10 and the values over five show an addiction which is a major health problem. The questionnaire was repeatedly evaluated over the years and, according to all of the research studies, it shows high reliability (Huang, Lin, & Wang, 2008; Muhammad-Kah, Hayden, Liang, Frost-Pineda, & Sarkar, 2011).

The average results for sports coaches of both genders have shown that their nicotine addiction is weak on average, although the highest values indicate that there are some very serious nicotine addicts (more among women). This has also been shown by reviewing the frequencies per individual questions from FTND questionnaire, particularly

the questions about the number of cigarettes that respondents smoke during a day. Most smokers smoke up to 10 cigarettes a day, and among male coaches that number is approximately equal to the number of those who smoke up to ten or twenty cigarettes. None of the women smoke more than 30 cigarettes a day, while among men one person does.

Sport coaches are certainly a population with its specific characteristics and because of their association with the players, especially the young ones, their lifestyle habits deserve attention. Sport plays an important role in a number of countries around the world and although athletes are generally credited and attract most of the attention, coaches are also an important link in this chain. Because of that their education in all fields as the one related to alcohol consumption will certainly help in achieving better results.

Reducing the number of smokers is one of the most important public health goals. Given the population with which sports trainers work – children and young people – it seems very significant to impact on their way of life because they are often an example to young people with who they work on a daily basis.

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## KONZUMACIJA ALKOHOLA I DUHANA MEĐU SPORTSKIM TRENERIMA

Sportski treneri su populacija sa svojim specifičnostima, a zbog njihove povezanosti s igračima, osobito mladima, njihov način života i navike zaslužuju pažnju. Cilj ovog istraživanja bio je utvrđivanje navika vezanih uz konzumaciju alkohola te pušenje cigareta hrvatskih sportskih trenera. Istraživanje je provedeno na uzorku od 203 sportska trenera različitih sportskih disciplina. Ispitanici su anonimno ispunili anketu (AUDIT upitnik) vezanu uz konzumaciju alkohola te anketu vezanu uz naviku pušenja cigareta te upitnik FTND koji se koristi za utvrđivanje nikotinske ovisnosti. U ukupnom uzorku anketiranih trenera bilo je 56 žena i 147 muškaraca. Prosječna dob žena bila je 24,3 godine, a muškaraca 27,1 go-

dina. Ispitani treneri oba spola najviše konzumiraju vino i pivo. Prosječne vrijednosti ukupnog AUDIT-zbroja ispitanih trenera značajno su ispod granice od osam bodova, što jasno pokazuje da većina trenera nema problema s alkoholom. Međutim, raspon u kojemu se kreće AUDIT pokazuje da ima i trenera kojima alkohol predstavlja problem. Prosječni rezultati za sportske trenere oba spola pokazuju da je njihova ovisnost o nikotinu u prosjeku slaba, iako najveće vrijednosti pokazuju da ima i vrlo teških ovisnika o nikotinu (veći broj među ženama).

***Ključne riječi:*** sportski treneri, alkohol, AUDIT, pušenje cigareta, FTND