

# Review Article

## Prevalence of problem-related drinking among doctors : a review on representative samples

## Verbreitung des problematischen Alkoholkonsums bei der Ärzteschaft : Ergebnisse repräsentativer Stichproben

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### Abstract

**Aims:** This paper is a review of the literature on problem-related drinking of alcohol among medical doctors, and it deals with the epidemiology and results.

**Methods:** A search of computer literature databases - PubMed and ETOH - was performed to locate articles reporting problem-related drinking among doctors, using population-based samples of doctors within the last two decades.

**Results:** In the light of different definitions of problem-related drinking, there was found a breadth of prevalence of problem-related drinking - from heavy drinking and hazardous drinking (12%-16%) to misuse and dependence (6%-8%) - within the population-based samples of doctors. An increased risk was positively related to male doctors and doctors of the age of 40-45 years and older, and to some factors of work, lifestyle and health.

**Conclusion:** For the future, it seems necessary to sensitise the research for problem-related drinking of doctors in Germany, e.g. initiating a representative survey, analysing the drinking of alcohol in the context of health, life-style and work-related factors.

**Keywords:** alcohol consumption, problem-related drinking, doctors

### Zusammenfassung

**Ziel:** Der Artikel gibt eine Übersicht über die Literatur zum problematischen Alkoholkonsum bei der Ärzteschaft.

**Methodik:** Die Datengewinnung erfolgte auf der Grundlage einer systematischen Recherche in den renommierten elektronischen Datenbanken - PubMed und ETOH - nach Studien zum Alkoholkonsum der Ärzteschaft, deren Ergebnisse aus repräsentativen Stichproben innerhalb der letzten zwei Jahrzehnte stammen.

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**Ergebnisse:** In Anbetracht unterschiedlicher Definitionen zum problematischen Alkoholkonsum variierte die Verbreitung des problematischen Alkoholkonsums - von starkem und riskantem Alkoholkonsum (12%-16%) zum mißbräuchlichen und abhängigen Alkoholkonsum (6%-8%) - in den repräsentativen Stichproben. Ein erhöhtes Risiko korrelierte positiv zu dem männlichen Geschlecht, der Altersgruppe 40-45 und älter, und einigen Faktoren der Arbeit, Lebensweise und Gesundheit.

**Schlussfolgerung:** Für die Zukunft scheint es notwendig zu sein, die Forschung für das Thema betreffend den problematischen Alkoholkonsum bei der Ärzteschaft in Deutschland zu sensibilisieren, d.h. repräsentative Untersuchungen zu initiieren und den Alkoholkonsum im Kontext der Gesundheit, Lebensweise und Arbeitsbelastung zu analysieren.

**Schlüsselwörter:** Alkoholkonsum, problematischer Konsum, Ärzteschaft

## Introduction

Lifestyle-related diseases such as hazardous drinking of alcohol are gaining an increasing actuality within the public health. Changing the lifestyle of risk groups is an important part of health-related prevention activities. Hereby, the role of doctors as ideal examples to the population with regard to their lifestyles and as experts to prevent lifestyle-related diseases stay in focus [3]. How much effort a doctor spends on prevention actions against hazardous drinking depends on several factors - one of them is his own individual practice. Several studies have shown that practising a healthful behaviour individually is the most consistent and powerful predictor of how doctors are counselling patients about related prevention issues [16], [36]. Furthermore, doctors' health behaviours appear to affect the patient's attitude and their motivation to make lifestyle changes [3]. However, previous studies have shown that doctors have high levels of alcohol consumption [8], [21], [34] and run an increased risk of alcohol-related diseases such as alcohol-related mortality, cancer, accident and suicide [5], [14]. A clear sign for problem-related drinking is a suicide rate [39], [42] that was found to be higher among doctors than among the general population or other academics in several countries [22], [27].

If we wish to improve the personal health status of doctors and their preventive interventions in their daily clinical work with patients, we need information on the group of doctors with problem-related drinking. Until today, no systematic investigations have been carried out with representative samples of German doctors. Therefore, the purpose of this article is to examine and review representative data of the prevalence of problem-related drinking among doctors undertaken in international studies and to discuss their results.

## Methods

A search of computer literature databases - PubMed and ETOH - was performed to locate articles reporting problem-related drinking of doctors. In order to strengthen the comparison among doctors, selection criteria were established to minimise the limitation and potential threats to validity inherent to all studies. First, comparison was based only on studies where population-based samples of doctors were used. These studies used probability sampling techniques that meant every medical speciality had a chance of being selected, thus enhancing the generalising of the results. Second, to get more reliable results in the present surveys on alcohol-related problems within the medical profession, only published data within the past two decades were selected. Table 1 reviewing the literature was created for the medical profession based on representative data, organising the publications by methodology, the type of samples studied, and population survey based samples. In addition to summarising the characteristics of each of the samples, the outcome variables and a summary of the findings are provided. Because of the methodological differences, this review does not entirely rely on statistical significance as a basis for comparison, but rather on the ranking and prevalence findings.

**Table 1: Comparison of the prevalence of drinking and problem-related drinking among doctors - selected representative studies**

Author	Region	Sample	Sample size (Response)	Methods	Current drinkers		Problem-related drinking	
					Outcomes	%	Outcomes	%
Juntunen et al., 1988 [24]	Finland, 1986	Random sample from medical associations' registry	N=3476 (n=2671; 76%)	Anonymous, mailed, self- administrated questionnaire	1 g or more of absolute alcohol consumed weekly		Heavy drinkers (≥200g/week)	
					Females	90.0	Females	8.0
					Males	93.0	Males	24.0
				All	93.5	All	16.0	
Gulbrandsen & Aasland, 2002 [20]	Norway, 1993	Cross-sectional from the membership of medical association	N=1476 (n=1056; 72%)	Mailed, self- administrated questionnaire	1-3 times a months or more		Hazardous drinking, ≥6 points of AUDIT-scores	
					Females	76.0	Females	4.0
					Males	83.0	Males	15.5
				All	79.0	All	12.2	
	Norway, 2000	Cross-sectional from the membership of medical association	N=1616 (n= 1351; 86%)	Mailed, self- administrated questionnaire	1-3 times a months or more		Hazardous drinking, ≥6 points of AUDIT-scores	
					Females	83.0	Females	7.7
					Males	87.0	Males	20.5
				All	86.0	All	16.5	
McAuliffe et al., 1991 [28]	USA, 1984	Random sample from the membership of the state medical society of New England states	N=500 (n=350; 70%)	Mailed, self- administrated questionnaire	Drinking in the past year	96.0	Alcohol abuser (DSM-III) and potential abuser (more than 2 drinks per day in the past year and some dysfunction due to drinking)	7.8
Hughes et al., 1992 [23]	USA, 1989-1990	Random sample from the membership of the American Medical Association	N=9600 (n=5426; 59%)	Anonymous, mailed, self- administrated questionnaire	Drinking in the past year	86.9	Self-reported abuse or dependence of alcohol only, and alcohol and other drugs	6.0
					Drinking in the past months	77.1		

## Results

Only four studies fit the selection criteria for making a comparison. Most of the studies have examined the alcohol consumption of doctors in a single speciality, gender group, geographic region, or done by medical students. Tabulated summaries and direct comparisons across the selected studies are difficult, because the definitions of actual drinking and problem-related drinking - alcohol misuse, hazardous drinking, heavy drinking - are classified in various ways. The results show that most of the doctors belong to the group of actual drinkers: about 94% of the US doctors drank alcohol within the past year [23], [28], 80%-85% of the Norwegian doctors drank more than once monthly within the past year [20], and 93% of the Finnish doctors drank more than 1g alcohol during the past week [24]. With regard to problem-related drinking, a wide range of findings is shown: In Finland, a high alcohol consumption of >200g alcohol a week was found among 16% of doctors [24]. In Norway, the proportion of doctors with hazardous drinking according to the AUDIT-score of 6 or more, increased from 12.2% to 16.5% from 1993 to 2000 [20]. In the New England States of the US, the percentage of combined abusers and potential abusers was 7.8% [28], and in the US study the percentage of doctors with alcohol abuse problems or dependence on alcohol was 6% [23]. Both Nordic studies have controlled their results for the same demographic variables. High alcohol consumption in Finland and hazardous drinking in Norway were positively related to gender and to age, e.g. more male than female doctors, and more older than younger doctors were apt to qualify as actual drinkers and risk group.

## Discussion

Only a few epidemiological studies were found using representative data. A strength of all selected studies is that they collected data by mailed self-administrated questionnaires, and so, in comparison with other methods, have a relatively high reliable validity rate concerning self-reported alcohol consumption [43]. However, if we consider the general underreporting of alcohol consumption, which is about 40%-60% [30] without much variation between nationals [26], then the volume of alcohol consumption could be even greater.

In the present review, selected studies showed alcohol consumption as an integral part of the daily life of doctors. In regard to the prevalence of problem-related drinking among doctors, a wide variation in the reported number of doctors affected with this problem is shown, ca. 6%-8% in the US studies and 12%-16% in Norway and Finish studies. The exact incidence is difficult to ascertain because statistical sources for estimates on doctors are conducted in a number of ways, including the definition of problem-related drinking: Both Nordic studies have focused on the measure of the early stage of problem-related drinking as harmful or hazardous alcohol use, and the US studies on the measure of the later stage of problem-related drinking such as abuse of or dependence on alcohol. Therefore, the differences between Nordic and US studies could be even smaller than those found here. However, drinking habits are connected to cultural factors. Consequently, differences in drinking habits of doctors between nationalities are possible [2], [37], [38]. For instance, in a pilot project of the author [37], [38], [36] concerning attitudes, smoking habits and drinking patterns of doctors it was shown that doctors in Aarhus (Denmark) - correlating with a generally more liberal attitude to alcohol - had a significantly higher prevalence of heavy drinkers than doctors in Mainz. This favourable situation seen from an epidemiological point-of-view does, of course, not mean that doctors in Mainz do not have any alcohol problems. Among doctors in Mainz, 17% drank hazardously at least once a month and 6% at least once a week. This pilot project suggests rates of hazardous drinking for doctors which are similar to the 6%-16% rates of problem-related drinking in the representative samples. Applying the prevalence rates taken from the representative studies - apart from the methodological differences - to German conditions, a considerable number of 30,000 to 40,000 practising doctors [9] with a problematical alcohol consumption will emerge.

The recent representative studies do show distinctive differences in the prevalence rates for problematical alcohol consumption among doctors. Both Nordic studies have found some demographic factors for problem-related drinking: An increased risk was positively related to male doctors and doctors over the age of 40 years in Finland [24] and the age of 45 years in Norway [20]. This seems surprising when it is shown that within the general population (at least in Finland, Norway and also in Germany) older people drink less than the younger ones. The age-effect among doctors was explained by the fact that younger doctors put an increased emphasis on the dangers of alcohol which will hopefully contribute to an increased risk-awareness concerning personal consumption. A similar precedent has been set by the change in doctors' smoking habits in the US and many other European countries [21]. A support for this explanation could be the conclusion of a Norwegian study among doctors that younger doctors are becoming more aware of the danger of alcohol use as a public health problem [1].

Independent of the age-effect, expected gender differences in drinking - females are less likely to drink alcohol and less likely to be heavier drinkers [4], [41] - were also present in the Norwegian [20] and Finnish study [24]. Yet, their alcohol consumption and prevalence of problem-related drinking can vary, e.g. between medical specialities. A pilot project of the author in Aarhus and Mainz [38] and a study in Norway [35] showed that female doctors within surgical specialities were more likely to engage in detrimental drinking than other female doctors. Here, the culture of surgery as a masculine culture may play a special role.

Of course, there are several reasons why doctors may be susceptible to problem-related drinking. Causal factors may include individual traits, drinking patterns during their time at medical school, social conditions and the highly responsible nature of their profession [6], [18], [29], [32]. In this respect, it may be of interest to mention McAuliffe and his colleagues' [29] observation of sensation-seeking as a prominent factor in recreational alcohol drinking among physicians-in-training. It is also important to note the presence of stressful conditions within the medical profession. Being a doctor is doubtlessly linked to a number of negative stress-factors. However, there is only a limited empirical support for a relationship between job stress and alcohol consumption. It is discussed that such a relationship exists if one believes in the efficacy of alcohol to relieve stress. On the other hand it is also

mentioned that work stress factors can result in job dissatisfaction [19], [33] or burnout [10] which can relate with heavy drinking [31], which was also shown in the Finnish study [24].

Special attention and help for the medical profession are generally needed: Firstly, doctors with a regular alcohol abuse pose a problem for patients, fellow-workers, and last, but not least for their own health. Secondly, doctors find it on the whole difficult to cope with their own physical and psychological ailments [40]. Thirdly, even within their own ranks, fellow-doctors do not consider alcohol-related problems as serious [7]. Fourthly, the attitude of doctors towards their own health has a direct impact upon the population, i.e. doctors play an important part as role-models for a healthy way-of-life, and as experts for finding solutions concerning health-problems [13], [16].

For the future it would be important to pay more attention to the drinking patterns of doctors in Germany. If one wants to give doctors with problem-related drinking in Germany the benefit of professional help, and to strengthen their engagement in the field of prevention, one cannot do otherwise but to strive for data compilations in a more systematic way, and to reflect on them both conceptually and methodically. At first, we need to have representative data to identify the risk-factors. Understanding the factors related to drinking would be greatly aided by closely studying not only gender and age differences [20], [24] but also other important variables such as speciality differences [35], work-related conditions and health status in a large scale survey. Moreover, because of the increasing number of women in medicine [11], [17] more attention should be paid to alcohol consumption patterns of female doctors. In addition, since data from other countries suggest problem-related drinking among doctors, it would be of interest to use comparative data from other countries for future analysis.

With the help of data we can find better ways of planning preventive and interventional strategies for this group, e.g. initiate projects to assess the changing working-conditions for doctors in order to improve the situation and to offer help to physicians who experience such problems in their professional work. Proceeding on the assumption that it is possible to influence attitudes and to change ways of behaviour with regards to drinking by training [12], for the future our hope may lie in promoting more intensive education concerning alcohol issues among doctors. We have a good chance to prevent harmful drinking in this group of professionals, because in the light of U.S. studies, doctors as a group probably respond favourably to prevention [25], even more favourably to alcohol addiction programmes, than do members of the general population [15].

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