The association among young/middle-aged men between drunken driving, psychiatric in-patient care, criminality and sickness absence/disability pension.

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Introduction.

There is a complex etiology behind disability pensions. At the same time as these social insurances can be considered as a way of granting economic security to physically and mentally handicapped they can be seen as a way of further marginalizing socially handicapped from normal social life. In the latter aspect early disability pensioning is especially serious. In Sweden, with 8.5 millions inhabitants, 8,696 persons aged 16-44 got an early disability pension in 1995. In most cases a disability pension in Sweden is preceded by a long-term sickness absence.

It is a well-known fact that the role of alcohol intake in medical certificates for different purposes is often omitted. Studies have shown that alcohol related deaths are considerably underreported on death certificates (Riddick et al 1978; Peterson et al 1982; Pollock et al 1987; Ågren et al 1987; Romelsjö et al 1993). Many patients are erroneously not recognised by the doctors as having an alcohol-related problem (Rubington 1972; Edward’s et al 1973; Romelsjö et al 1988). Alcohol consumption as a presumptive major or contributing cause of a disability pension is seldom mentioned in studies concerning disability pensions (Medhus 1976; Elton and Hörnquist 1983; Månsson et al 1994).

A number of Swedish studies have found a marked association between high-level alcohol consumption and a disability pension and that the role of alcohol often is hidden behind socially accepted diagnoses. In addition, a number of studies both international as well as Swedish have demonstrated a positive association between high alcohol consumption and increased sickness absence (Jenkins 1986; Jenkins et al 1992; Kristenson et al 1982; Marmot et al 1993).

In one of these studies (Kristenson et al 1982), a population study of middle-aged men in Malmö, elevated serum-gamma-glutamyltransferase (GGT) was used as an indicator of heavy drinking. The high GGT-group had 3.1 times as many sick-days 1955-1975, 9 times as many convictions for public drunkenness and 14 times as many offences for drunken driving.
(>=0.05% blood alcohol level) as the low GGT-group. The number of individuals with legal convictions for drunken driving or drunkenness offences was 2.8 times larger in the high GGT-group.

In Sweden benefits from the social insurance system since the seventies have became characterized by a broadening of the concept of sickness whereby many social and personal problems could be seen as, and defined as, sickness.

In two former studies risk use of alcohol at the time of conscription to mandatory military service was analyzed in a longitudinal design as a risk indicator for early disability pension (Upmark et al 1997) and drunken driving (Karlsson and Romelsjö 1997). The main issue for the present study is an analysis of the role of hazardous alcohol habits during follow-up, as indicated by records of drunken driving and inpatient care with an alcohol-related diagnosis for subsequent disability pension. The purpose was to analyze the association between indicators of hazardous alcohol consumption during follow up, with special emphasis on drunken driving, on one hand and disability pension and increased sickness absence in young men on the other.

**MATERIAL AND METHOD**

**Study population**

The study was based on self-reported information on alcohol habits and other conditions provided by young men at the mandatory conscription for military service in 1969/1970. The study comprises all 8,122 conscripts born in 1950-1951 from Stockholm county.

**Indicators of hazardous drinking and information on psychosocial factors at base-line**

The draftees were asked to answer a questionnaire consisting of one section which comprised queries on social background, school, psychological aspects, health etc and one section with questions about use of alcohol, tobacco and various drugs. In addition, interview-based personality assessment was made by a psychologist. This included a composite variable - emotional control- i.e. mental stability, emotional maturity, stress tolerance, and frustration. Draftees showing mental symptoms were examined by a psychiatrist and a psychiatric diagnosis, if any, is included in the material.

Consumption in grams 100% alcohol/week was calculated on the basis of the answers to the questions on frequency and average consumed volume of beer, wine and strong spirits. As indicator of hazardous drinking we used a composite variable, 'risk use of alcohol' which included and/or one or more of the following indicators of problem drinking: high
consumption, ever having taken an "eye-opener", apprehended for drunkenness at one or several occasions or often been drunk. High consumption was defined as at least 250 g 100% alcohol/week.

Indicators of hazardous drinking during follow-up
We present three indicators of hazardous drinking during follow-up, namely: drunken driving and in-care at hospital with an alcohol diagnosis 1970-1991.

Drunken driving.
Drunken driving offences are registered at Statistics Sweden. In 1990 the lower limit for drunken driving was changed from 0.05 to 0.02 per cent blood alcohol. However, the number of registered drunken driving crimes per year have not increased. In 1991 more than 60 % of the analyzed blood specimen contained more than 0.15 per cent alcohol. (Laurell H). Studies have shown that a great part of drunken drivers consists of hazardous drinkers. A Swedish study based on drunken drivers when the lower limit was 0.05 percent blood alcohol, found that half of the offenders were registered at the Temperence Board (Sveri,1970). Another study from Sweden supported a theory that the frequency of drunken driving is related to criminality (drunken driving offences excluded) while the percentage of alcohol in the blood mainly is related to alcohol abuse (Norström,1992).

Public drunkenness
Data on public drunkenness between 1970 and 1977 were received from the Swedish National Archives. Thereafter public drunkenness was not legally considered in the same way and was not registered as an offence.

Hospital admission for alcoholism
Information about hospital care for alcoholism, alcohol intoxication and alcohol psychosis was collected from the Stockholm County Council register up until 1992.

Criminality
Information about criminality was received from Statistics Sweden. Serious crimes are defined as crimes with penalties of imprisonment. The only crimes that were excluded from the registration were some (not serious) traffic offences/violations.

Information about Sick Benefit and Disability Pensioning in Sweden
Disability pension may be granted to a person between 16 and 65 years of age whose working capacity is estimated to be permanently reduced due to illness or other physical or mental impairment.
Information was obtained from the National Swedish Social Insurance Board - with the aid of the unique Swedish personal identification number - concerning the conscripts who had been granted disability pensions after the drafting 1969/1970 and up until 1992. We also have obtained data about the number of days with sickness allowance for the three years 1989--91 at the end of follow-up (data on earlier sickness allowance were not available).

Statistical Methods
The information from the questionnaires and assessments at the conscription and information from registers indicating hazardous drinking during follow-up were linked to data about disability pension and sickness absence. By combining this information with information from the registers described above separate analyses for different groups of hazardous drinkers could be done. We have defined an average minimum of 60 sick days per year during the follow-up period (1986-1991) as highly increased sickness absence.

RESULTS

The prevalence of risk-use at base-line and alcohol-related consequences during follow-up
During follow up up until 1992, that is up until the age of 40-41 years, 211 (2.6%) of the men in the military conscript cohort was granted an early disability pension. The majority of the men, 74.9%, had a mental illness as their main diagnosis. An alcohol diagnosis was stated as the main diagnosis in 6.2% of the decisions of a disability pension and in 9.5% as the main and/or secondary diagnosis.

Another 373 (4.6%) of the men had increased sickness absence during the end of the follow-up. Of all men who answered one or more of the queries concerning alcohol habits 15.3% were risk users, compared to 32.1% of the men who were given an early disability pension, and 28.6% among the men with increased sickness absence at the end of the follow-up period. On the other hand only 13.8% of hazardous alcohol consumers at conscription were granted an early disability pension or had increased sickness during follow-up. Among all men this proportion was 7.2%.

All together 12.7% of the conscripts had records of one or more alcohol-related consequences in registers during follow-up. Most of them, 7.9%, had had an offence for drunken driving, 6.0% had been convicted for public drunkenness and 2.5% had been cared at hospital with an alcohol diagnosis. Indicators of alcohol-related problems during follow-up was approximately three times as prevalent among disability pensioners and among men with high sickness absence. One third of of the disability pensioners and one third men with high
sickness absence had alcohol-related consequences during follow-up (35.1 % and 35.7% respectively).

The prevalences of criminality other than drunken driving during follow-up
In the whole cohort 26.6 % had registered criminal offences (drunken driving offences excluded) during follow-up. Among disability pensioners this proportion was about 2.5 times as great (61.1%) and among those with high sickness absence about twice as great (53.9%). The corresponding proportions contrasted more for serious crimes between all men, men who were granted a disability pension and men with high sickness absence.

Relative risks for an early disability pension and elevated sickness absence among drunken drivers
Drunken driving involved a more than threefold elevated risk of disability pension/highly increased sickness absence (RR 3.4; 95% C.I. 2.8-4.1). In multivariate analysis, controlling for some of the factors from conscription (psychiatric diagnosis, deficient emotional control, social group of the father, self-rated health, truancy, risk use and unemployment after school) this relative risk was only slightly reduced (RR =3.1; 95% C.I. 2.4-3.9)

CONCLUSION
In this study we found that the risk of being granted a disability pension/having highly increased sickness absence was increased more than three times if the man had a drunken driving offence. These results indicates the importance of early identification of hazardous alcohol habits among young men with failing working capacity and high sickness absence. In this way rehabilitation efforts directed toward these habits could be initiated, preventing a continuous hazardous use of alcohol.

REFERENCES


Kristenson H, Öhm J, Hood B. Convictions for drunkenness or drunken driving, sick absenteeism, and morbidity in middle-aged males with different levels of serum-glutamyltransferase. Prev Med 1982;11:403-16.


