

THE ROLE OF ALCOHOL ABUSE IN WORKING DISABILITY IN PATIENTS WITH LOW BACK PAIN

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ABSTRACT. The prevalence of alcohol problems was investigated in 50 patients with chronic low back pain, and compared to an age, sex, civil status, and income matched control group. Alcohol abuse was significantly more frequent among the male low back patients. Within the patient group the use of analgesics and sedatives was not related to the degree of alcohol consumption. Alcohol problems were not found to influence the rehabilitation process negatively, probably because the rehabilitation programme was not directed to the back only. Such problems therefore should not discriminate against inclusion in a rehabilitation programme.

Key words: Alcohol, low back pain, rehabilitation, unemployment, work disability

Alcohol problems have been found to be frequent in patients sick-listed for low back pain (3, 9). It is sometimes suggested that low back pain in these patients is a minor problem, and that it is used as a "diagnosis of convenience". But, the relationship between alcohol and low back pain is intricate. Alcohol abuse can be a primary factor causing low back pain, for example by influence on the neuromuscular system (2) and by increased risk of osteoporosis (7) and accidents (4). It is also possible that alcohol abuse is secondary to low back pain, used as an analgesic or tranquilizing drug or due to exclusion from the working community. Moreover, alcoholism is likely to be detected more readily in sick-listed subjects, since they get considerable medical attention.

The present study concerns the significance of alcohol consumption for working disability and its influence on the rehabilitation process in patients with long time sick-listing for low back pain. The role of functional, sociological and psychological factors in these patients will be published elsewhere.

PATIENTS AND METHODS

A consecutive group of 52 out-patients with non-specific low back pain was selected from patients referred to the

Department of Orthopaedic Surgery, Göteborg, Sweden, based on the following criteria:

1. Sick-listing because of chronic lumbar pain for at least 3 months.
2. Age less than 50 years.
3. Absence of neurological disturbances.
4. Good linguistic comprehension of Swedish.

Two patients were later excluded; one because she had left the town and another one because he refused participation. The mean age of the remaining 50 was 41.8 years for the 34 men (range 27-50 years), and 39.8 years for the 16 women (range 29-49 years). Almost all of the patients were or had been blue collar workers. Eleven men and five women were unemployed at the beginning of the present sick-listing period. The mean income (\pm SD) reported on January 1, 1974, was 37 100 (\pm 10 340) SEK for the men and 23 800 (\pm 12 730) SEK for the women (100 SEK = \$20.53).

Every patient was carefully informed about the study and was interviewed by one of us (J. S.) according to a standardized form (8), to determine the dependence on alcohol, drinking habits and drug consumption. These data were used to calculate drinking intensity and alcohol consumption. Chronic alcoholism was defined as an altered reaction to alcohol, i.e. presence of abstinence symptoms, black outs and increasing tolerance to alcohol. Drinking intensity was defined as the number of days per month with an alcohol consumption of 15 g per day or more. Registration by the local Temperance Board was also recorded as well as visits at the Psychiatric Departments in Göteborg because of alcohol problems.

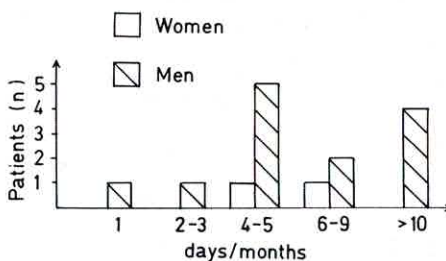


Fig. 1. Drinking intensity, i.e. number of days per month with an alcohol consumption of 15 g or more in patients with an average alcohol consumption of at least 15 g/day.

Table I. Prevalence (n) of social and medical signs of alcohol abuse in probands and controls

Social and medical signs	Probands		Controls	
	Men	Women	Men	Women
Registration by the local Temperance Board	12		5	
Visit at psychiatric hospitals for alcohol problems	10		3	1
No registration/visit	20	16	29	15
Total	34	16	34	16

A control group was obtained from the register of the National Health Insurance Office in the following way: Each proband was matched with regard to sex, age, civil status, and income to a control. If it was not possible to find a control with the same birthdate an individual born as close as possible to that date—before or after—was chosen. The income as well as the civil status was determined, based on data from January 1, 1974. A maximum difference in income of 5000 SEK between the proband and the control cases was accepted. The mean income of the controls was 37500 (± 10550) SEK for the men and 22700 (± 13010) SEK for the women. For the control group intemperance registration and visits at psychiatric departments was recorded in the same way as for the probands.

Fisher's exact test (two-tailed) was used to compare probands and controls with respect to alcohol problems, and to compare alcohol and non-alcohol probands with respect to the rehabilitation result. The Wilcoxon rank sum test was used to analyse the coincidence of alcohol consumption and unemployment.

RESULTS

Six of the 50 patients—one man and five women—were teetotallers. There were 13 men and 2 women with an average daily alcohol consumption exceed-

Table II. Prevalence (n) of consumption of different drugs in patients with an average alcohol consumption ≥ 15 g/d (Group H, n=15) and < 15 g/d (Group L, n=35)

Type of drug	Patient group		Total
	H	L	
Phenothiazines	1	1	2
Sedatives	6	16	22
Analgesics or anti-inflammatory drugs	11	29	40
Others	1	2	3
No drugs	3	6	9

Table III. Effect of rehabilitation measured as return to work in patients with high (H) and low (L) consumption of alcohol

	Patient group		Total
	H	L	
Return to work	12	18	30
No return to work	3	17	20
Totals	15	35	50

ing 15 g. All but two of these reported that they consumed 15 g alcohol or more on more than four occasions every month (Fig. 1). Four male patients were chronic alcoholics.

Fourteen patients in the proband group had visited psychiatric departments because of alcohol problems and/or had been registered by the local Temperance Board (Table I). All of these were men. The corresponding figure in the control group was six. The difference in prevalence of alcohol problems between the male probands and their controls was statistically significant ($p < 0.05$). No specific pattern of drug consumption could be referred to the drinking habits (Table II). In fact, the high alcohol consumers used analgesics and sedatives as often as the low consumers. The reported alcohol consumption was significantly higher ($p < 0.05$) in the group of eleven men who were unemployed at the beginning of the present sick-listing period, compared to the group of 23 employed men.

Of the patients with high alcohol consumption 80% returned to work following rehabilitation, compared to about 50% in those with low alcohol consumption (Table III). This difference was not statistically significant. Similar results were achieved when the patient material was divided with respect to presence of documented visits at psychiatric departments because of alcohol and/or registration by the local Temperance Board (Table IV).

Table IV. Effect of rehabilitation in patients with and without alcohol defined alcohol problems

	Alcohol problems		
	Yes	No	total
Return to work	10	20	30
No return to work	4	16	20
Totals	14	36	50

DISCUSSION

When discussing the role of alcohol for working disability it is important to consider that alcohol can harm an individual in many different ways. The amount of alcohol consumed as well as the drinking pattern can play an important role in the development of these conditions. It is generally accepted that 1 g alcohol per kg of body weight per day will lead to chronic irreversible organ damage. According to Rydberg & Skerfving (6) it seems reasonable to regard a tenth of this amount as the limit of damage risk, i.e. about 7 g pure alcohol per day. Twice this value, i.e. 15 g per day, is in the present report used as the limit between low and high consumption. This amount corresponds to the ethanol content in a bottle of Swedish Export Beer (4.5% w/v) and also to the mean daily alcohol consumption in Swedish adults.

As mentioned above alcohol can affect the low back in many ways and to different degrees. In the case of manifest damage both etiological consideration and choice of therapy ought to be rather simple. On the other hand non-specific low back pain is a common phenomenon and, when protracted, often presents a challenge for the therapist. The present study was limited to patients with this problem and also to its relation to alcohol consumption.

The high prevalence of alcohol problems in the patient group is in accordance with other investigations (3, 9), although there is at least one report in which a low prevalence was found (1). It is difficult to make comparisons with other studies, however. There is often a deficient definition of the alcohol abuse (1) and a different composition of the patient material (3, 9). Westrin (9) found that intemperance registration in his male probands, 33%, was more frequent than in matched controls, 18%. The even higher corresponding intemperance registration in our male probands, 35%, compared to the controls, 15%, might be just because of the chronicity of the lumbar complaints in our patients.

Even minor lumbar dysfunction will probably be used as reason for sick-listing in patients suffering from social and/or psychological insufficiency, which in turn also could be associated to passivity and vulnerability. This assumption could explain the unexpected high prevalence of unemployment in the present study, which is also related to the alcohol consumption. For the unemployed individual sick-listing must be better than seeking for a job, especially when the possibility to get one is

small. In addition the health insurance payments in Sweden are generally higher than corresponding benefits from social welfare or unemployment insurance. Furthermore, sick-listing appears to be more acceptable in the community than social welfare dependence.

The results of the rehabilitation attempts indicate that alcohol problems did not have a negative influence. On the contrary, there was a tendency to better results in alcoholic patients than in the others. This finding is in conflict with that reported by Natvig (5). The discrepancy in treatment results can be due to differences in the rehabilitation programmes. It seems reasonable to assume that patients with chronic low back pain, with alcohol as a contributing or predominant limiting factor for working, are more susceptible to rehabilitation when this is not directed to the back only.

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REFERENCES

- Hilding, S., Hedqvist, H., Arbman, B. & Wigren, A.: Rehabilitation of patients with low back disorders in the county of Uppsala. *Ups J Med Sci* 81: 103-108, 1976.
- Lafair, J. S. & Meyerson, R. M.: Alcoholic myopathy. *Arch Intern Med* 122: 417-422, 1965.
- Lokander, S.: Sick absence in a Swedish company. *Diss. Acta Med Scand, Suppl. 377*, 1962.
- Mackay, I. R. & Langford, I.: Blood alcohol estimations in patients attending an outpatient clinic. *Med J Aust* 50: 778, 1963.
- Natvig, H.: Sociomedical aspects of low back pain causing prolonged sick leave. A retrospective study. *Acta Soc Med Scand* 2-3: 117-126, 1970.
- Rydberg, U. & Skerfving, S.: The toxicity of ethanol. A tentative risk evaluation. In *Alcohol intoxication and withdrawal*. Vol. 3 B (ed. M. M. Gross), pp. 403-419. Plenum Publishing Corporation, New York, London, 1977.
- Saville, P. D.: Alcohol-related skeletal disorders. *Ann NY Acad Sci* 252: 287-291, 1975.
- Wallerstedt, S.: Physical and Biochemical Changes during Abstinence. *Diss. Univ. of Göteborg*, 1977.
- Westrin, C. G.: Low back sick-listing. *Scand J Soc Med, Suppl. 7*, 1973.

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