HEALTH LOCUS OF CONTROL IN PROBLEM DRINKERS WITH AND WITHOUT LIVER DISEASE

BASEM FARID*, MADELEINE CLARK¹ and ROGER WILLIAMS²

Leicestershire Mental Health Trust, NHS Community Drug and Alcohol Service, Drury House, 50 Leicester Road, Narborough, Leicestershire LE9 5DF, ¹Stamford Wing, Royal Masonic Hospital, Ravenscourt Park, London W6 0TN and ²Institute of Hepatology, University College London Medical School, 69-75 Chenies Mews, London WC1E 6HX, UK

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Abstract — The purpose of this study was to investigate whether patients who developed alcoholic liver disease have more awareness of the link between their behaviour and subsequent health than patients with non-alcoholic liver disease and people with drink problems with no liver disease. This study included three groups of patients, alcoholic liver disease (ALD) (n = 57), non-alcoholic liver disease (n = 77), and problem drinkers with no liver disease attending a London community day treatment centre (ACCEPT) (n = 115). Health locus of control differentiates people into two groups, health externals who are individuals who maintain that their health is largely determined by external factors, as opposed to health internals, who believe that their behaviour plays a major role in determining their subsequent health or illness. The results of the Health Locus of Control (HLC) scale administered to the above subjects suggested that the ALD group had limited insight into the relationship between their drinking and subsequent liver disease, compared to the ACCEPT group. It is suggested that alcoholic liver disease patients receive counselling as part of their total management.

INTRODUCTION

Excessive alcohol consumption can lead to the development of a wide range of liver diseases. The mildest form, alcoholic fatty liver, is usually a benign condition. Alcoholic hepatitis has a mortality rate of up to 8%. Patients with alcoholic hepatitis, who reduce their alcohol intake, have an 80% 7-year survival, compared with 50% 7-year survival in those who continue to drink. Only 8% to 30% of long-term alcohol abusers develop alcoholic cirrhosis and a minority of individuals will not progress beyond the stage of fatty liver, despite persistent drinking. Variation in individual susceptibility is accounted for by differences in cumulative amount, duration, and pattern of drinking (Harris and Brunt, 1995).

For some individuals, it would seem that the risk of severe alcohol-induced liver damage is dose dependent and requires a threshold drinking level to be reached, whereas for others, the effect is similar to an idiosyncratic drug reaction and is influenced by other environmental and genetic factors. Long-term prognosis depends on the patient's ability to abstain from alcohol and the severity of the underlying liver damage (Sherman and Williams, 1994).

The ability to maintain abstinence from alcohol requires a change of lifestyle, accepting the reasons for one's actions and being aware of the consequences of drinking behaviour. Patients who believe that their behaviour influences their health status are said to have internal locus of control orientation with regard to their health. If, on the other hand, they believe that their health is influenced by the actions of other people, due to fate, luck or chance, they are said to have an external locus of control orientation.

The purpose of this study was to investigate whether patients who develop liver disease as a result of their alcohol consumption believe that their own behaviour determines their state of health (i.e. are internally controlled), compared with patients with non-alcoholic liver disease and people who present to a community agency with alcohol problems, but who have not developed liver disease. The assumption is that if patients do not acknowledge this link, they may lack the motivation to change their drinking habits. It is
thus thought that this type of insight can be an important precursor to the cognitive process that may lead to abstinence.

It is important to describe the concept of Health Locus Control (HLC) and its measurement for the benefit of the non-familiar reader. The HLC scale was designed to measure health-specific control expectations with the objective of predicting health-related behaviour (Wallston et al., 1976). The HLC scale is an 11-item self-completion questionnaire. Six of the items are worded in the external direction (e.g. good health is largely a matter of good fortune) and five worded in the internal direction (e.g. if I take care of myself I can avoid illness).

The 11 items of the HLC are

1. If I take care of myself can I avoid illness?
2. Whenever I get sick it is because of something I’ve done or not done?
3. Good health is largely a matter of good fortune?
4. No matter what I do, if I am going to get sick I am going to get sick?
5. Most people do not realize the extent to which their illnesses are controlled by associated happenings?
6. I can only do what my doctor tells me to do?
7. There are so many strange diseases around that you never know how or when you might pick them up?
8. When I feel ill I know it is because I have not been getting the proper exercise or eating right?
9. People who never get sick are just plain lucky?
10. People’s ill health results from their own carelessness?
11. I am directly responsible for my health?

The scale has a potential scoring range of 11 (internal end) to 66 (external end). This means that lower scores denote high internal control and higher scores denote higher external control. The normative data have a mean score of 39, a scale mid-point (Boyle and Harrison, 1981). Age and sex do not affect the results of the HLC (Russell and Ludenia, 1983). High scorers on the HLC (Health Externals) are individuals who maintain that their health is largely determined by external factors beyond their personal control, e.g. fate, luck or chance events. Low scorers (Health Internals), by contrast, believe that a person’s behaviour plays a major role in determining subsequent health or illness. In its original form, HLC presumed a uni-dimensional internal–external axis (Wallston et al., 1976). However, Boyle and Harrison (1981) pointed out that it is possible for a person to have both internal and external expectations with respect to their health. Thus knowing the scores of both internal and external controls is important, in addition to the total score, which denotes the overall direction of control. In the present work, the following two hypotheses were tested: (1) in comparison with patients with alcoholic liver disease, patients with non-alcoholic liver disease would have high internal locus of control scores; (2) problem drinkers without liver disease who seek psychological help would be more ‘health internal’ than patients with alcohol-related liver disease presenting at the Liver Unit.

SUBJECTS AND METHODS

A total of 249 subjects were studied. These included 57 with alcoholic liver disease, 77 with non-alcoholic liver disease and 115 presenters with no liver disease to a community-based agency. The first two groups were consecutive admissions to the Liver Unit, King’s College Hospital and the third group consecutive attendees at ACCEPT (Addictions Community Centres for Education, Prevention and Treatment). The inclusion criteria were an age range of 18–69 years and formal consent. ACCEPT attenders were excluded if they had evidence of alcoholic liver disease either clinically or biochemically.

The criteria for diagnosis of alcoholic liver disease were: (1) history of alcohol consumption of at least 40 g per day for 5 years or more; (2) a liver biopsy showing alcohol-related liver disease as judged by a specialist histopathologist; and (3) no other cause for liver disease.

All patients were interviewed within 1 week of admission and the HLC scale (Wallston et al., 1976) was administered. The data were analysed by comparing the means between non-alcoholic liver disease (NALD) and alcoholic liver disease groups (ALD) (the two groups having liver disease...
in common) and between the ALD and ACCEPT groups (the two groups having alcohol use in common). A $t$-test analysis was preceded by a one-way analysis of variance.

**RESULTS**

The ALD group ($n = 57$) had a mean ($\pm$SEM) age of $47.8 \pm 1.3$ years, which was significantly higher ($P < 0.001$) than the mean age of $40.8 \pm 1.4$ years of the NALD group ($n = 77$). Women constituted 51% and 58% of the two groups respectively. The ACCEPT group ($n = 115$) had a mean age of $38.9 \pm 0.8$ years. Women constituted 38% of this group. However, there were no statistical differences between men and women in all three groups. Only the ALD group patients were significantly older than the other two groups ($P < 0.001$).

The results of the HLC scores are shown in Tables 1 and 2. A comparison of ALD and NALD groups showed that the ALD group had significantly ($P < 0.001$) less health internal scores than the NALD group ($P < 0.001$) and also had significantly less total control (Table 1). The results in Table 2 show that the ALD group had significantly ($P = 0.01-0.001$) higher external and total control scores than the ACCEPT group.

**DISCUSSION**

It was previously shown that problem drinkers who have developed liver disease are generally less dependent on alcohol, suffer from fewer social psychological problems, and drink for more years than those who do not develop liver disease (Wodak et al., 1983). We questioned in the present work whether drinkers who develop liver disease as a consequence of their continued drinking are aware of the link between their behaviour and whether they consider such a link important. The present study attempted to investigate the level of awareness of this link between behaviour and health in a group of patients who developed alcoholic liver disease secondary to continuing drinking. They were compared with a group of patients with non-alcoholic liver disease and to another group of problem drinkers who had not developed liver disease and who were seeking psychological help with their drinking problems.

We expected that patients with alcoholic liver disease would be more aware of this link than non-alcoholic liver disease patients (i.e. would have more internal locus for control, i.e. lower internal control scores) and indeed this was the case. There was no difference in internal health locus of control scores between the two groups of drinkers, with or without liver disease, contrary to our second hypothesis. However, examining the data more closely pointed to the fact that drinkers who seek psychological help for their drinking are in fact taking more responsibility for their actions than drinkers who continue drinking excessively for a long time, to the extent of developing liver disease, as can be inferred from the difference in the total scores of the HLC.

The ALD group blamed external factors beyond their control for their health condition, whilst also acknowledging that their actions were also responsible for their behaviour. These results support the use of the HLC as a bi-dimensional

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### Table 1. Health Locus of Control (HLC) in patients with alcoholic and non-alcoholic liver disease

<table>
<thead>
<tr>
<th>Patient groups and numbers</th>
<th>HLC score (mean ± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal control</td>
</tr>
<tr>
<td>Alcoholic liver disease patients ($n = 57$)</td>
<td>13.5 ± 4.2*</td>
</tr>
<tr>
<td>Non-alcoholic liver disease patients ($n = 77$)</td>
<td>19.0 ± 4.3</td>
</tr>
</tbody>
</table>

* $P < 0.001$.

### Table 2. Health Locus of Control (HLC) in problem drinkers with and without liver disease

<table>
<thead>
<tr>
<th>HLC score (mean ± SD)</th>
<th>Patient groups and numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal</td>
</tr>
<tr>
<td>Alcoholic liver disease ($n = 57$)</td>
<td>13.5 ± 4.2</td>
</tr>
<tr>
<td>Drinkers without liver disease ($n = 115$)</td>
<td>14.6 ± 3.9</td>
</tr>
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* $P < 0.01$; ** $P < 0.001$. 

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scale as advocated by Boyle and Harrison (1981), but not as a uni-dimensional score as advocated by Wise and Mann (1993). Using the HLC as a uni-dimensional score would not have differentiated between drinkers who develop liver disease from those who seek psychological treatment. Externally located individuals have been shown to be less capable of utilizing social supports to modify stress, anxiety, and depression (Krause and Stryker, 1984).

The present study has shown drinkers who develop liver disease as a group of patients with some limited insight into the relationship between their behaviour and their health status. As a group, they both acknowledge the relevance of their behaviour to the development of the liver disease, whilst at the same time blame external events beyond their control for their condition. This casts doubts about the ability of this group of patients to abstain from alcohol without formal help (Patek and Hermos, 1981).

Counselling patients with liver disease has been shown to be of benefit, at least to a large minority of patients (Blen et al., 1993). These results imply that psychological interventions with patients with alcoholic liver disease ought to be taken into account in the total management package, this is lacking at present (Harris and Brunt, 1995). While it is accepted that about a quarter of patients with severe alcoholic liver disease would continue to deteriorate even if they succeeded in abstaining from alcohol (Sherlock, 1995), good practice requires that every patient should receive the best treatment. In the case of alcoholic liver disease this should include psychological intervention.

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REFERENCES


