

## INFORMATION AND REGIME AT LOW BACK PAIN

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**ABSTRACT.** In a consecutive series of 56 District Health patients with low back pain, 24 had special training and instructions in a Back School, while the 32 in a control group—even if seen regularly, did not get the same intense attention. The two groups were found to have the same characteristics. No significant differences could be demonstrated either concerning the initial duration of symptoms and sick leave or the number of recurrences and their duration during the observation year. The interpretation of this lack of positive effect is, that in this comparatively more heterogenous population the actual procedure has less influence. However, there were more patients with periods of sick-leave for different other reasons in the control group. Not surprisingly the treated group of patients were also more satisfied. We therefore conclude, that the initial treatment could be limited to advice about back care, preferably a few days bed-rest, with concrete advice about the back and prescriptions for analgesics when needed.

*Key words:* Low back pain, therapy

Low back pain is one of the most common disorders in our society—as far as sick-leave reimbursed by the Swedish Health Insurance Fund is concerned it outnumbers even the common cold in the 20–50 years age group (12).

Most cases show no specific cause for the pain and thus adequate treatment is lacking (10, 14). A number of different methods have been suggested but only a few have shown at the most a limited positive effect in the course of the illness (2, 3, 8, 13, 16, 17).

During the first days of acute low back pain bed-rest and analgesics have shown to be helpful (17). If the patient seeks help after about a week, education and exercises may be effective particularly in reducing the period of sick-leave; this was shown by Bergqvist-Ullman & Larsson 1977 in a study of a selected group of industrial employees. As conventional physiotherapy demands more resources than can be justified by the very limited results obtained (3, 8) there is reason to try if the educational and exercise Back School-type of treatment could be

effective on a more heterogenous group of patients as well.

This prospective randomized study has therefore been carried out in order to ascertain if a combination of early training and teaching by a physiotherapist could influence the time of discomfort and sick leave initially in a group of urban Health District patients with acute low back pain. Because of the possibility of preventive effect during a longer period of time recurrence of pain and periods of sick-leave were also registered during one year.

### MATERIAL AND METHODS

A consecutive series of 56 patients who during a three months period visited a general practitioner complaining of acute low back pain localized to the lumbosacral region, with or without radiation to the thigh, were randomized by their date of birth into either a treatment group (24 patients) or a control group (32 patients). Patients with chronic pain and earlier back surgery or specific reasons for pain as infections, tumors, fractures were excluded as well as those already incapable of work with low back pain and patients on a pension. After the examination by the physician the patients were assessed by the physiotherapist who made a detailed, standardized, objective, clinical examination of each patient.

The treatment group initially was given individual information and instructions in a Back School type of program. This included advice about standing, sitting and lying positions as well as information about the function and anatomy of the spine. Emphasize was laid on preventing strain on the back and avoiding of unfavourable working postures. The patients were also provided with a written summary of these principles. After a week they were sent back to their physiotherapist for further information and a training program, when the patients were encouraged to increase their level of physical activity in spite of their back disorder. In course of the following six weeks the patients could if necessary contact the physiotherapist for further information on a weekly basis. This facility of a regular contact with a physiotherapist was taken advantage of on an average 2.4 times (range 1–5 times).

The control group was advised at the first visit not to strain their back and when needed to use analgesics. No instructions of the Back School type were given and no



Table I.

Clinical findings on entering the study	Treatment group		Control group	
	no.	%	no.	%
Coughing-sneezing pain	19	80	15	47
Flexion-pain	23	96	30	93
Lasegue-positive	5	20	1	3
Loss of reflexes	3	12	2	6
Scoliosis	9	37	12	37
Tenderness of the SI-joints	7	30	13	40

physiotherapy was provided. The patients in both groups were examined by a physician and a physiotherapist after 3 and 6 weeks respectively. For those with continuing disability after 6 weeks supplementary treatment with physiotherapy, corset etc. was provided. The period of sick-leave was individually decided upon at each visit.

After approximately one year all the patients were reexamined by a questionnaire and a follow-up of their records. It also included whether the patient found the information satisfactory. Information regarding sick-leave during the actual period of observation was obtained from the local Health Insurance Fund.

Chi-square analysis with Yates correction was used for the statistical test. The average age was 37 years (range 16–58) in the treatment group and 39 years (range 24–65) in the control group. The number of women was 58 and 56% respectively. The follow-up time for both groups was on an average 11 months (range 9–12). None of the patients had had spinal surgery previously but 70% in the treatment group and 65% in the control group had had low back pain earlier for an average of 4 years in both groups. When entering the study 29% in the treatment group used analgesics compared with 50% in the control group.

In the treatment group 46% of the patients did manual work compared with 38% in the control group. These differences were not significant. As far as sedentary work was concerned, there was quite similar numbers in both groups. The duration of low back pain before the first visit to a doctor was 7 and 8 days in the treatment and control group respectively.

On entering the study there were no statistically valid differences between the groups regarding forward flexion-pain, loss of reflexes, scoliosis, tenderness of the SI-joints or between the 20% in the treatment group who had positive Straight Leg Raising test (SLR) as compared to 3% in the control group. Eighty per cent of the patients in the treatment group, however, had pain when coughing and sneezing compared with 47% in the control group. Even if significant ( $p < 0.05$ ) this pain did not correlate to a longer initial period of sick-leave (Table I).

## RESULTS

### Initial course

The number of patients without pain or with very little pain after one, three and six weeks respective-

ly did not differ significantly in the two groups but a slight tendency to an earlier improvement was found in the treatment group. The initial time of sick-leave in the treatment group was on the average 31 days (range 5–144 days). Two patients continued to work initially. In the control group the average sick-leave was 29 days (range 4–81) and three patients did not need sick-leave initially.

The number of patients who were more or less painfree after one week was 21% in the treatment group compared with 16% in the control group. After three weeks the number of painfree patients raised to 75% and 66%, respectively, and after 6 weeks more than 80% in both groups were free from low back pain (Table II). Further treatment after 6 weeks was needed in four cases (17%) in the treatment group and in four cases (13%) in the control group. Thirteen per cent of the patients in both groups were sent for consultation to the Orthopaedic Department. One patient in the control group developed a herniated lumbar disc which later became operated.

### Recurrences

During the observation year four patients (16%) in the treatment group suffered recurrences of low back pain necessitating sick-leave for an average of 44 days. The corresponding number in the control group was 10 patients (31%) with an average sick-leave of 42 days. This difference is not statistically significant. The time for sick-leave during the observation year was on an average 36 days (range 1–144 days) in the treatment group and 39 days (range 0–254 days) in the control group.

Three patients in each group needed sick-leave more than 100 days. From the Health Insurance Fund information was also obtained about sick-leave due to other disorders during the observation year. In the treatment group 13 patients (54%) had had sick-leave for other disorders compared with 26 patients (81%) in the control groups. The amount of sick-leave for individual patients did not differ sig-

Table II. Number of painfree patients after 1, 3 and 6 weeks respectively

Time	Treatment group (24)	Control group (32)
1 w.	5 patients (21%)	5 patients (16%)
3 w.	18 patients (75%)	21 patients (66%)
6 w.	20 patients (83%)	26 patients (81%)

Table III. Findings related to the back pain situation during the year after entering the study according to the questionnaire

	Treatment group	Control group
Number of answers	23 patients (96%)	31 patients (97%)
Low back pain (during one year)	17 patients (74%)	27 patients (87%)
Number of occasions	4 times (range 1-7)	4 times (range 1-10)
Number of weeks	7 weeks (range 1-24)	6 weeks (range 1-13)
Visits to		
Doctor	8 patients (35%)	10 patients (32%)
Physiotherapist	6 patients (26%)	8 patients (26%)
Chiropractor	2 patients (9%)	3 patients (10%)
Satisfied with information	14 patients (61%)	9 patients (29%)

nificantly (on an average 19 and 18 days respectively).

### Questionnaire

In answering the questionnaire one year after the beginning of the study 74 per cent of the patients in the treatment group and 87% in the control group reported that they had suffered from low back pain during the observation year. In both groups the patients had had low back pain on four different occasions and lasting for 6-7 weeks.

Low back pain had led to visits to a doctor for 35% in the treatment group and 32% in the control group.

In both groups 37% of the patients had visited a physiotherapist and 9% in the treatment group and 10% in the control group had seen a chiropractor during the past year.

Fourteen patients (61%) from the treatment group were satisfied with the help they had been given during the first 6 weeks in comparison with 9 patients (29%) in the control group. This difference was significant ( $p < 0.05$ ) (Table III).

### DISCUSSION

The treatment group and the control group in our study were comparable to each other as regards age and sex, amount of heavy work, earlier back pain problem and spinal operations. The average patient profile corresponds to what is known from earlier published studies (1, 4, 6).

The difference between the groups on entering the study concerning coughing and sneezing pain and to some extent the commonly associated Straight Leg Raising Test could be suspected to influence the end results. Such a clinical manifesta-

tion, however, has earlier (1) been found not to relate to the course of the episode and neither the length of relapses but to a longer duration of sick-leave during the initial episode. That was not the case in this study and therefore should not influence the results.

The number of painfree patients after three and six weeks corresponds to what has been found in earlier studies where the numbers of painfree patients have been approximately 70% after three weeks and 90% after two months (5).

Bergqvist-Ullman & Larsson found in their study (1) on factory employees that patients who had been trained by a Back School had significantly shorter initial sick-leave period compared with the control group. In our material of a more heterogeneous city population we have not seen such results from a similar back education. The slight modification of the form but not of the contents of the message could of course explain the lack of effect but our interpretation is that the more well defined, and homogenous groups of low back pain patients respond more satisfactorily. As in their study we could not demonstrate a more rapid alleviation from pain with Back School treatment between three and six weeks. In our study as well as in Bergqvist-Ullman and Larsson's (1), a long term effect during the following year of back education could not be demonstrated to significantly influence the sick-leave or the recurrence of low back pain which was the same in both groups. In our treatment group, there was a tendency to fewer recurrences of low back pain and also a tendency to less sickleave for other conditions although we have not been able to prove its cause. It could be explained by a slight preventive effect of the measures. On the other hand it has already been shown (1, 15)



that there is a correlation between high levels of sick-leave for other conditions and a tendency to listed sick for periods of low back pain. This interaction may also be a possible explanation for the difference in the number of recurrences of low back pain between the groups. With regard to the questionnaire no statistically significant difference could be found between the groups during the observation year, the number of occasions or the duration of pain. The number of visits to a doctor, physiotherapist or chiropractor caused by the back pain was more or less the same for both groups and so was the number of patients requiring treatment after six weeks and the number who was sent to an orthopaedic department. Not surprisingly the patients in the treatment group were more pleased with the help they had received. Also in the similar study of chronic idiopathic low back pain by Lankhorst et al. (7), Back School showed little value and therefore in these cases all efforts should be directed towards the prevention of chronicity of low back pain. Nevertheless the main aims of the Back School to teach the patients how to work in pain-free postures when the condition of the back so permits and to encourage them to cope with the disorder are at least of some psychological value even if not able to change the natural course and need for further aid.

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