

The efficacy of the back school for patients with non-specific low back pain: An overview

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This overview represents the experimental intervention used in the study by Keijsers et al reported on pp. 79-83, this issue.

INTRODUCTION

Low back pain is a frequent complaint. It is likely that up to 80% of all people will experience back pain to some extent during their active lives (Nachemson, 1976). In most cases, the complaints are self-limiting, with recovery within 2 months in 90% of cases (Bergquist-Ullman and Larsson, 1977; Frymoyer, 1988). However, recurrences are frequent (40-60%; Haanen, 1984). The complaints are in most cases non-specific, which means that no underlying pathology has been established. In the Netherlands, 80% of all consultations with general practitioners (GPs) involve such non-specific complaints (Hoekstra, 1985). It is commonly recognised that, in addition to physical factors, psychosocial factors are also involved in both the aetiology and prognosis of low back pain (Meilman, 1984; Nachemson, 1979; Turk and Flor, 1984). These factors are of equal importance in terms of treatment and they necessitate a multi-

dimensional approach to non-specific low back pain.

One of the possible treatments for low back pain is attendance at a so-called back school, which is of Swedish origin (Zachrisson Forssell, 1981). Back schools offer an education and skills programme in a group setting aimed primarily at pain management: information is given about ways of dealing with pain, so that the patient is able to control the pain problem better (Linton and Kamwendo, 1987). Ultimately, this should lead to a decrease in work absenteeism and medical utilisation. The efficacy of back schools is controversial (Fisk, Dimonte and McKay Courington, 1983; Keijsers, Bouter, Steenbakkens and Meertens, 1989a; Linton and Kamwendo, 1987; Terpstra and Bouter, 1988).

In the existing literature, six studies can be found in which patients were randomly assigned to an experimental and a control group (randomised clinical trial). Patients in the control group received no treatment or an alternative treatment. The reason for excluding all other studies into the efficacy of back schools is that the results of such studies can hardly be interpreted and are therefore not useful. In the six available randomised clinical trials, the efficacy of non-clinical back schools for patients with non-specific low back pain was assessed. In two of the six studies, the back school turned out to be ineffective (Berwick, Budman and Feldstein, 1989;

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Lankhorst et al, 1983). In one study, the efficacy of the back school is doubtful (Keijsers et al, 1989b). In the remaining three studies, the authors concluded that the back school is indeed effective (Bergquist-Ullman and Larsson, 1977; Hurri, 1989; Klaber Moffett, Chase, Portek and Ennis, 1986). Several problems concerning the validity of these 'positive' studies make such conclusions at least doubtful. The duration of the follow-up, for example, was relatively short (16 weeks) in the study by Klaber Moffett et al (1986). Furthermore, the often large number of effect parameters used in the studies, increases substantially the chances of finding at least one statistically significant effect.

Since many doubts remained concerning the efficacy of back schools, we conducted another randomised clinical trial (Keijsers et al, 1990b). The results of this randomised clinical trial will be presented below.

At the Department of Health Education of the University of Limburg, the so-called Maastricht back school was developed, in cooperation with the University Hospital. The Maastricht back school consists of seven sessions, each lasting 2.5 h, plus a refresher session after 6 months. A course instructor is present at every session. In addition, various guest lecturers are invited to give information and training. At the end of each session, a written summary is handed out. The Maastricht back school is considered to be a combination of all those elements which we felt ought to be included in a back school information and training programme (Keijsers, Steenbakkens, Gerards and Meertens, 1990a). In order to determine the efficacy of the Maastricht back school in primary health care, a randomised clinical trial was conducted. The experimental group that followed the sessions of the back school was compared to a waiting list control group, who were promised entry into the back school programme at the end of the study. All of the participants could continue using traditional care for their complaints.

SELECTION CRITERIA

The inclusion criteria for the study were (1)

complaints to be non-specific, (2) duration of complaints to be between 2 months and 3 years and (3) patient to be able to perform physical and relaxation exercises. Prospective participants were judged on all these criteria by the GPs recruiting the study population.

EFFECT PARAMETERS

The most important measures of effect were (1) pain management, (2) pain, (3) medical utilisation (subdivided into consultations with health care providers, number of types of treatment and medication) and (4) absenteeism from work, expressed in numbers of days. Other effect parameters were functional disability, knowledge of the subjects discussed in the course, general well-being and satisfaction about the Maastricht back school. Data on all of the effect parameters were collected at baseline and 2 and 8 months after randomisation. As much as possible, internationally acknowledged effect parameters, validated for the Dutch language, were chosen.

RESULTS

Univariate and multivariate analyses of the repeated measures data were performed on every effect parameter, in order to determine whether there were differences across time between the experimental and control groups, i.e. whether the experimental group showed more progress. Furthermore, univariate and multivariate analyses of covariance of the repeated measures data were performed on most of the effect parameters. This was done in order to determine the efficacy of the Maastricht back school after adjustment for differences between the experimental and the control groups at baseline.

In Table 1, the means of the experimental and control groups are given for the most important effect parameters (pain management, pain, medical utilisation and absenteeism from work) and for each episode of data collection. Data on medical utilisation, as well as on absenteeism from work, were collected only at baseline and 8 months after randomisation. None of the dif-

Table 1
Means of the experimental and control groups for the most important effect parameters and for each data collection episode*

	Experimental group (n=37)			Control group (n=40)		
	Baseline	2 months	8 months	Baseline	2 months	8 months
Pain management (range 1-10)	5.2	4.1	4.2	4.6	4.4	3.8
Pain (range 1-10)	6.5	5.4	5.4	5.8	5.3	4.1
Medical utilisation						
consultations (range 0-∞)	23.3		9.0	16.1		6.6
treatments (range 0-22)	3.3		1.8	2.6		1.0
medication (range 0-7)	1.2		0.8	0.6		0.3
Absenteeism from work (range 0-∞)	27.0		19.0	21.3		3.4

*For each effect parameter, a higher figure corresponds to a less desirable situation.

ferences between the experimental and control groups turned out to be statistically significant.

Summarising the results, it can be concluded that:

1. Both the experimental and the waiting list control groups showed progress with time. However, the experimental group did not show significantly more progress than the control group.
2. Although the patients were randomly assigned to the treatment groups, there were substantial differences between the groups at baseline.
3. After adjustment for these differences, there was still no difference in effect between the group receiving the Maastricht back school treatment and the waiting list control group.

CONCLUSION

In addition to the apparent inefficacy of the Maastricht back school, some problems concerning the validity of our study need also to be discussed. For example, the differences at baseline may be due to the data collected after randomisation rather than before. Filling out a questionnaire when knowing whether or not one can enter a back school programme might bias one's answers. Moreover, the number of patients in the study was relatively small ($n=77$). As a result, only major differences between the experi-

mental and control groups could reach statistical significance. Nevertheless, it can be concluded that it is unlikely that the Maastricht back school is an effective treatment for patients with non-specific low back pain. The limited evidence available from other randomised clinical trials indicates at most borderline effects for other back schools. Very large trials with perfect methodology might yet show some beneficial effects. The question is, however, whether such trials deserve high priority.

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