

Rehabilitation of young immigrants in primary care

A comparison between two treatment models

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Objective – To evaluate the effect on well-being and sickness certification of interviews and three dialogue sessions concerning ideas about pain in young immigrants suffering from long-standing, benign pain.

Design – A randomized clinical four-week trial between two treatment groups.

Setting – A primary health care centre, Stockholm, Sweden.

Subjects – 92 persons, 25–45 years of age, on sick leave >6 weeks.

Measures – Physical and psychiatric examinations and self-ratings of work ability and pain anxiety were made before and after the programme. Sick leave data were studied at three and eight-month follow-ups.

Results – 45 immigrants, mean age 38 years, mean sick leave 13 months, completed the programme. There were no significant differences in general or diagnostic data between the treatment groups. All had pain. Three-quarters reported pain anxiety.

Nearly half had depressive disorders. Only ten persons had self-rated ability for part-time work. After the programme, there were significant differences in favour of the experimental group in number of participants with pain anxiety ($p=0.01$), with diagnosed depression ($p<0.05$), with self-rated work ability ($p=0.05$), and in the number of participants who had returned to work at the eight-month follow-up ($p<0.05$).

Conclusions – This study indicates that, for young immigrants suffering from long-standing benign pain, a structured dialogue with focus on concepts of pain may reduce pain anxiety and depressive mood, improve self-rated work ability, and increase the prospects of successful rehabilitation back to work.

Key words: immigrants, rehabilitation, psychosocial stressors, long-standing pain, work ability.

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Poor outcome of rehabilitation of patients with chronic pain has been attributed to prolonged periods of pain, self-conviction of the severity of the condition, psychosocial stressors, language difficulties, and litigation (1–4). For immigrants, in whom unfavourable factors often interact, rehabilitation efforts can even be counter-productive (5–7). Iatrogenic factors and differences in concepts of illness may also contribute to a poor outcome (8,9). Many of these negative factors were present among the participants in a primary care rehabilitation programme for young immigrants on long-term sick leave (10). The programme was based on available resources in the primary care district. The principal goal of the programme was to rehabilitate the participants to at least part-time work or a job-retraining programme. If this was not possible, the aim was to increase the participants' subjective well-being.

The aim of the present study was to investigate whether structured patient-doctor dialogues that focused on the participants' pain anxiety would increase well-being and decrease sickness certification to a larger extent than traditional methods.

SUBJECTS AND METHODS

The study was carried out at a primary health care centre in a district of Stockholm where 82% of the 9500 inhabitants in the age group 16–45 years were first or second generation immigrants from over 70 countries. Their socio-economic state was generally low. As the educational level was also low, all reading and writing activities were excluded from the programme. A detailed description of the applied methods, as well as the results from the first assessment, are given in a previous paper (10). The study was carried out from November 1992 to August 1993.

The local health insurance office compiled a list of all persons ≤ 45 years on sick leave for >6 weeks. All eligible persons were asked to enter a rehabilitation programme (Fig. 1).

Those who agreed to participate were randomly assigned by blind lottery to follow an experimental treatment model (group A) or a traditional treatment programme (group B) (Fig. 2). All were offered an authorized interpreter. Data concerning sick leave diagnoses, age, sex, year of immigration, and occupation were collected from the local insurance office.

The programme consisted of two clinical assessments

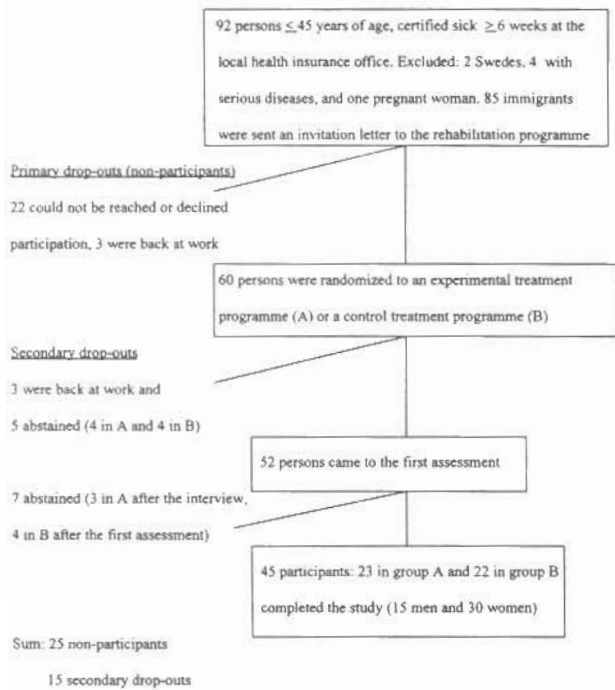


Fig. 1. Flow chart of the participants, drop-outs, and non-participants in the programme.

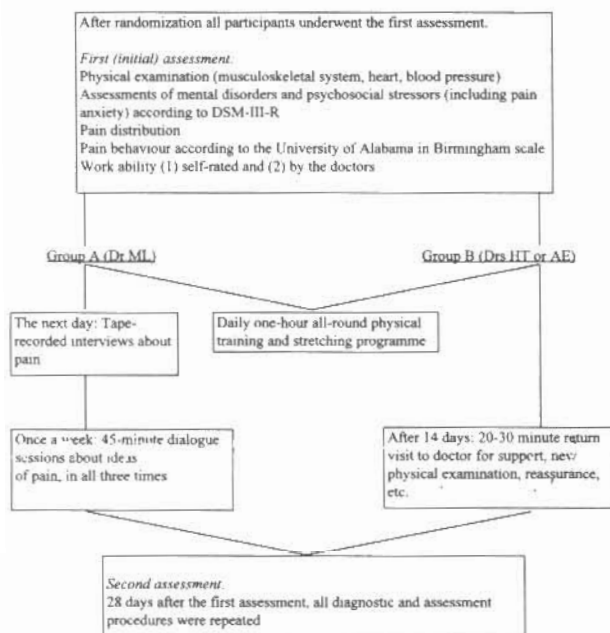


Fig. 2. Chart of the main contents of the rehabilitation programme for group A (experimental treatment) and group B (control treatment).

with 28 days in between performed by two doctors jointly: ML and, alternately, AE or HT. All diagnoses and assessments were made on the doctors' consensus, based on the participants' presentation of their problems

and the doctors' examining results. In cases of disagreement, the most pathological alternative was chosen. We did not introduce any new medicines.

All participants had a physical examination that focused on the musculoskeletal system.

Criteria from the Diagnostic and Statistical Manual of Mental Disorders, Third Revised Edition (DSM-III-R) were used in diagnosing psychiatric disorders and in assessing severity of psychosocial stressors, including pain anxiety.

The participants pointed out the painful parts of their bodies. The result was noted on a pain drawing by one of the doctors. On evaluation, the pain drawings were divided into 18 body areas, each counting one point.

Pain behaviour was assessed according to the University of Alabama in Birmingham scale (UAB), a ten-item scale with scale steps: 0 (non-existent), 0.5 (some) and 1 (obvious) (11). Pain behaviour was defined as equal or more than one point.

Finally, participants and doctors, independently of each other, rated the functional ability in relation to occupational duties (work ability). The assessed degree of reduced work ability followed the guidelines for sickness certification in Sweden (0%=no, 25%=slight, 50%=some, 75%=moderate, and 100%=severe). A difference of two scale steps or more at the evaluation was judged as an obvious change.

All participants in the programme were recommended a daily one-hour all-round physical training and stretching programme (12). A physiotherapist was responsible for instructions and supervision.

The participants in group A were then taken care of by ML. Those in group B were offered at least one routine consultation with either HT or AE.

The participants in group A came back the day after the first assessment for a tape-recorded interview, and for three additional weekly visits. The interview was based on open questions that concentrated on the person's own explanation of his/her pain (13). A verbatim transcript was made. In the succeeding sessions, the interviewee's concepts of pain were discussed. The goal of the sessions was to reduce pain anxiety. Two main therapeutic paths were followed, namely discussion of the supposed cause of pain and specification of the frequency of pain.

After the second assessment, the participants were referred back to their doctors.

The local health insurance office supplied information on sick leave status at three and eight months after the study. Return-to-work status was regarded as established when a participant had entered a job-retraining programme or had been working at least part-time, i.e. at least two hours per day, for 30 days or more.

Statistical analysis

Chi-square and Fisher's exact test were used for the comparison of category data, Student's t-test for non-

Table I. General characteristics and sick leave data of the participants in the experimental group A and the control group B, and the drop-outs from both groups (within parentheses). Corresponding data for the non-participants in the study are also presented.

Group	A		B		Non-participants
	n	(drop-outs)	n	(drop-outs)	
n	23	(7)	22	(8)	25
Women (n)	15	(4)	15	(4)	16
<i>Region of origin (n)</i>					
Turkey n = 24	8	(3)	7	(1)	5
Southern Europe n = 22	6	(0)	5	(1)	10
Northern Europe n = 14	4	(1)	1	(2)	6
Other regions n = 25	5	(3)	9	(4)	4
<i>Occupation (n)</i>					
Manual workers	18	(5)	17	(6)	18
Unemployed	4	(0)	1	(1)	2
Miscellaneous	1	(2)	4	(1)	5
<i>Sick leave (months, mean)</i>	12.5	(7.3)	13.0	(19.4)	15.5
SD	5.6	(5.0)	13.7	(14.3)	14.4
<i>Age (mean)</i>	37.8	(39.0)	38.5	(36.1)	37.1
SD	4.5	(6.3)	5.0	(5.2)	5.2
<i>Education (years, mean)</i>	7.4	(6.0)	7.4	(3.0)	7.0
SD	3.4	(1.7)	4.2	(4.2)	3.7

mally distributed interval data, the Mann-Whitney U-test for non-normally distributed data, and the Wilcoxon Matched-Pairs Signed-Rank test for comparing ordinal and interval data before and after treatment. The chi-square test was used for analysis of association between category data and Spearman's correlation for ordinal data. A p-value of 0.05 or less was considered statistically significant.

RESULTS

There were 92 persons on the list from the local health insurance office. Two were Swedes, the rest first generation immigrants. The two Swedes, one pregnant woman, and four immigrants with complicated conditions (one with a recent heart attack, one on a waiting-list for heart-transplantation, two with psychoses) were excluded. Sixty of the remaining 85 eligible immigrants agreed to participate (71%). They were randomly assigned to group A or group B. In all there were 25 primary

Table II. Number of participants in group A (experimental treatment) and group B (control treatment), at the first and second assessments of the rehabilitation programme, with a diagnosed depressive disorder according to DSM-III-R, with self-rated pain anxiety (yes/no), with pain-behaviour measured as one or more points in the UAB pain behaviour scale, and self-rated ability for at least part-time work as well as the participants' median values of the pain-drawings. Values of the drop-outs are presented within parentheses.

Group	A		B		p-value
	Participants	Drop-outs	Participants	Drop-outs	
n	23	(3)	22	(4)	
<i>Depressive disorder (n)</i>					
First assessment	9	(1)	11	(0)	p<0.05
Second assessment	4	-	11	-	
<i>Pain anxiety (n)</i>					
First assessment	17	(1)	17	(0)	p=0.01
Second assessment	6	-	14	-	
<i>Pain drawings (md, range 0-18)</i>					
First assessment	8	(4)	8	(7)	
Second assessment	4	-	3.5	-	
<i>Pain behaviour (n)</i>					
First assessment	16	(2)	16	(3)	
Second assessment	14	-	14	-	
<i>Self-rated work ability (n)</i>					
First assessment	4	(0)	6	(1)	p=0.05
Second assessment	9	-	3	-	

drop-outs (non-participants) and 15 secondary drop-outs. Altogether 45 persons, 23 in group A and 22 in group B, completed the programme (participants) (Fig. 1). Only two of them were previously known to us.

Half of the eligible persons (48%) were attended by doctors in private care, one-third (31%) by doctors in public health care, and the remaining by occupational health care physicians. There were no significant differences between the participants, non-participants, and drop-outs in this respect.

There were no significant differences with regard to general and sickness data between the 45 participants, the 15 secondary drop-outs, and the 25 non-participants (Table I).

At the first assessment all persons reported pain, to which they referred as the main cause of work inability.

One of the secondary drop-outs reported pain anxiety, and another had a severe depression (Table II). Otherwise there were no differences in diagnosed disorders or assessed variables between them and the participants.

Characteristics of the 45 participants in groups A and B who completed the programme

Fifteen men (eight in group A, seven in group B) and 30 women (15 in each group) completed the entire programme. All were first generation immigrants. Only one participant (in group A) was fluent in Swedish. Eleven participants in group A and eight in group B were assisted by an authorized interpreter. More participants in group A than in group B (drop-outs excluded) had been on sick leave for longer than six months ($p < 0.05$).

Physiotherapy. The median number of physiotherapy sessions was 12 (inter-quartile range, IQR, 14.0) in group A and ten (IQR 10.5) in group B. There was no significant relationship between the number of physiotherapy sessions and any measured or assessed variable.

Physical diagnoses. There were no significant differences in somatic diagnoses between groups or between the assessments. The commonest diagnoses were muscle insertion lesions (16 cases in group A, 15 in group B), mostly in a shoulder, a hip, along the spine, or in a combination of these locations. We could not find a specific cause for pain in six participants in group A and five in group B.

Psychiatric disorders. Two women, one in each group, had a combination of mild depressive and phobic disorders. The number of depressed participants in group A had decreased at the second assessment, resulting in a significant difference between the groups in the number of depressed participants (four vs eleven persons, $p < 0.05$) (Table II). Only one of them (in group A) still had a depression of moderate degree.

Severity of psychosocial stressors. At both assessments, the median value of assessed severity of psychosocial stressors was 3.0 (IQR 1.0) in both groups. Participants

reporting pain anxiety had decreased more in group A than in group B (eleven vs three, $p < 0.05$), resulting in a significant difference between the groups at the second assessment ($p = 0.01$), (Table II).

Pain drawings. All participants reported pain both before and after the programme. A majority, 11 in group A and 13 in group B, reported much less extensive pain after the programme ($p < 0.001$ in both groups, Table II).

Pain behaviour. The number of participants with pain behaviour decreased only little (Table II). Median values in the UAB scale in group A were 1.5 (IQR 1.0) at the first assessment and 1.5 (IQR 2.5) at the second assessment, and in group B 1.5 (IQR 2.0) and 1.25 (IQR 2.5), respectively (NS).

Doctors' assessments of work ability. Four in group A, but none in group B, were assessed as having become obviously improved. At the second assessment, 15 in group A and 16 in group B were estimated by the doctors to be able to work at least part-time.

Participants' assessments of their work ability. Five participants in group A and two in group B (NS) reported obviously improved work ability. Improved self-rated work ability was associated only with absence of pain anxiety ($p < 0.05$). Obviously deteriorated work ability was reported by five in group B but none in group A. The result was a significant difference between groups A and B in the number of participants who assessed themselves as able to work at least part-time (nine vs three, $p = 0.05$) (Table II).

Total improvement. To sum up, at the second assessment the number of improved participants in one or a combination of the variables diagnosed depressive mood, reported pain anxiety, or self-rated work ability were 18 in group A and seven in group B ($p < 0.01$).

Follow-up concerning sick leave

In spite of our efforts to refer the participants back to their doctors, two persons in group A and two in group B were taken care of by the researchers. All four were certified 100% sick at the follow-up. At the eight month follow-up, fewer persons were on full-time sick leave in group A than in group B ($p < 0.05$, secondary drop-outs included, or $p = 0.01$, secondary drop-outs excluded) (Table III). One in group B was on 75% sick leave, counted as having returned to work.

There was an association between good self-rated work ability in both groups ($n = 45$) at the second assessment, and return to work both at three ($p = 0.01$) and eight months follow-up ($p < 0.01$). The doctors' assessments of work ability were of less predictive value. Otherwise there were no significant associations between the measured or assessed variables or categories of participants and return to work.

Table III. Number of persons on sick leave from the experimental treatment programme (group A) and the control treatment programme (group B), as well as among the secondary drop-outs (within parentheses) and the non-participants in the rehabilitation programme at the start and at the follow-up eight months after the end of the study.

Group	A		B		Non-participants
	23	(7)	22	(8)	25 ¹
<i>Sick leave at start</i>					
50%	4	(1)	6	(2)	8
100%	19	(6)	16	(6)	17
<i>Sick leave at follow-up</i>					
0%	8	(2)	5	(2)	7
50%	7	(1)	4	(2)	5
100%	8	(4)	13	(4)	12
<i>Decrease in no. of persons on 100% sick leave</i>					
	11 ²	(2) ³	3	(2)	4

¹ One missing case at follow-up (reported to have left the country)

² 11 vs 3, $p = 0.01$ group A vs B with drop-outs excluded

³ 13 vs 5, $p < 0.05$ group A vs B with drop-outs included (intention to treat)

DISCUSSION

There were certain difficulties in running and evaluating a voluntary rehabilitation programme for immigrants in primary care. One difficulty was that a total of 14% had an unknown address. Other problems were that attending physicians had other treatment plans for their patients, and that some eligible persons returned to work before the programme started. These factors may partly explain the primary and secondary drop-out rate.

Concerning general and sickness certification data, there were no significant differences between non-participants, secondary drop-outs, and participants in the study. Nor was there any indication that the non-participants or secondary drop-outs had more serious disorders or psychosocial stressors than the participants. However, the primary and secondary drop-out rate was not negligible, and the risk of selection bias therefore remains, limiting the possibility of reaching a general conclusion.

Return to work, regardless of degree, was measured as the most important variable to follow. In accordance with the recommendations of the Quebec task force for the evaluation of the management of spinal disorders, we also studied variables such as pain anxiety, illness behaviour, depressive mood, and self-rated work ability (1).

At the first assessment, the researchers knew to which group the participants belonged. This could have influenced the results from the examinations. In addition, there was no blind evaluation at the second assessment, for which we instead used an intersubjective method (14). These procedures were anyway decided on for ethical and practical reasons. The doctors' placebo effect on patients' well-being is a confounding factor, but since there were equal reductions in pain drawings and

pain behaviour, this effect was probably similar in both groups. These two variables are not necessarily associated with distressed mood. Instead they could be interpreted as communication devices (10,15).

The evaluation concerning sick leave was made on data from the local health insurance office. The overall rate of return to work of 26% in the whole material may not seem impressive. During the same period, in Stockholm County, 64-70% in a group of persons aged 30-49 years on sick leave for more than six months were no longer certified sick at a six-month follow-up. This figure is not standardized with regard to diagnoses or ethnic origin (Bergman L, personal communication). There are no comparable figures for immigrants. However, there is a considerable risk for long-term sick leave and disability pension in non-Swedish married women cleaners above the age of 35 (16). In this perspective the return to work rate among the participants in group A, most of them married female cleaners aged 35-45 years, is quite encouraging.

A majority of the immigrants in this programme were distressed by their migrant status and/or by a whole range of other psychosocial stressors. The multiplicity of negative factors made it difficult to choose a strategy for rehabilitation. Experiences from rehabilitation medicine and medical anthropology made us choose pain, a potential strong stressor, as the single subject for discussion within the experimental part of the programme (1,9,17).

The dialogue strategies used were based on principles from cognitive therapy, shown to be efficient in treating depression and in preventing new periods of depressed mood (18). For the participants in the treatment group, their mood improved although the dialogue sessions concentrated only on their ideas about pain. As depres-

sion frequently accompanies chronic pain, the pain discussions might have been of strategic importance (19). The discussions seem also to have reduced anxiety about the pain. In turn, improved self-rated work ability was only present among the participants who reported no pain anxiety. And, as proposed in earlier studies, self-rated work ability was a superior predictor of return to work (20). But since sick leave is a complicated, multifactorial syndrome, such explanations can only be tentative.

Other programmes using cognitive behavioural strategies in treating backache have shown similar positive results (21,22). They have all been applied to culturally or linguistically homogeneous groups, presumably because most cognitive behavioural strategies are considered difficult to use across language and cultural boundaries. The liberal use of professional interpreters in our study, and the concentration on the participants' own notions probably helped to overcome some of these difficulties.

There were few changes in physical status during the programme, and the physiotherapy sessions had no influence on the outcome. This is probably due to the fact that highly distressed patients, such as those in this study, require more than physical treatment. One major conclusion of the study is that in rehabilitation, the impact of pain on a particular patient is as important as the physical impairment.

Despite the short follow-up and the large number of primary and secondary drop-outs from the programme, the results may be regarded as encouraging. Further studies are needed to establish whether the outcome of this study is actually due to the experimental method used, and also whether the method can be learnt and used by other general practitioners in their clinical work with chronic pain patients.

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