

Stress treatment programme

Effect of a multidisciplinary stress treatment programme on the return to work rate
A non-randomized controlled study from a stress clinic
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ABSTRACT

Background

Increasing number of patients has been referred to the medical sector with stress symptoms during the last years, and absenteeism has increased due to these conditions. There is a need for treatment programmes in general medical practice.

Aim

To test the effect of a multidisciplinary stress treatment programme on the return to work (RTW) rate.

Methods

73 employees aged 25 to 61 years were referred to a stress treatment programme at the Stress Clinic, part of the Clinic of Occupational Medicine, during two years. Ten participants dropped out.

The stress treatment programme consisted of the following:

1. Identification of relevant stressors.
2. Changing the coping strategies of the participants.
3. Change the workload and tasks.
4. Relaxation techniques.
5. Physical exercise.
6. Psychiatric evaluation if there were a high score on the depression test.

On average each patient attended six one-hour sessions during four months.

A group of 34 employees referred to the Clinic of Occupational Medicine by their GPs served as a control group. They had a one-hour consultation at baseline and after four months. All sessions were carried out by a specialist in occupational medicine.

RTW, defined as having a job and not being absent at the census. RTW was used as outcome measure four months after baseline, after one and two years.

Results

The level of sick leave in the stress treatment group dropped from 52 percent to 16 percent during the first four months of follow-up and remained stable. In the control group, the reduction in sick leave was significantly lower from 48 percent at baseline to 27 percent after four months and 24 after one year. No significant difference between the two groups was observed after one and two years.

Conclusion

The stress treatment programme showed a significant effect on the return to work rate. The stress treatment programme seemed feasible for general practitioners.

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Key Words: Stress, return to work, stress treatment programme, sick leave, return to work, longitudinal study

Background

In a country characterised of small to medium sized enterprises the occupational health services are not widespread and treatment of work related stress conditions is often in the hands of the general practitioners. They are however often not capable of dealing with employees suffering from work related adjustment disorders with stress symptoms and are not in the position to deal with the work places of their patients. Guidelines as developed in the Netherlands for managing such conditions were not available until recently (1). We therefore established The Stress Clinic at Clinic of Occupational Medicine, Hillerød Hospital in 2002, the first of its kind in Denmark. The aim was two-fold: firstly to test a treatment concept, secondly to use the physiological findings to increase the knowledge about the long-term effect of stress conditions. This communication describes the effect on return to work (RTW) of the applied programme.

Prior to the establishment of the Stress Clinic, the Stress Reception in Stockholm (2) was visited in order to learn from their experiences during the previous two years. The Swedish Stress Reception treats people who are referred by insurance companies and have a history of long-term illness.

In addition, several published studies of the effect of intervention in cases of work-related stress were evaluated (3-9). These studies, all from work place settings, showed some effect of cognitive behavioural therapy and of multi-faceted interventions, but only modest effect of relaxation exercises on their own. Programmes which focused exclusively on organisational changes had no significant effect. Symptom reduction and experienced job satisfaction were the most frequently used outcome measures.

With this background, it was decided that the treatment at the Stress Clinic should be multi-faceted and so simple that elements of the fully developed programme could also be used outside of the hospital setting, e.g. in general practices where fewer resources are available.

The research question was if the treatment programme was able to increase the RTW rate among the participants compared to other stressed employees without formal treatment. RTW was defined as having a job and not being absent at the time of census. In addition predictive factors for RTW were explored.

Methods

We did not adhere to any specific psychological or psychiatric form of therapy. We followed the factors identified by Frank and his group (10,11) which are common across the specific treatments such as (a) a plausible rationale for the patients' symptoms, (b) a treatment plan, (c) a therapeutic atmosphere of a caring and hope-inspiring relationship..

The programme included:

The anamnesis

Before the initial interview, the participants filled out the following questionnaires:

- Basic information regarding social conditions, exercise and health
- The Stress Clinic questionnaire regarding general wellbeing, based on a questionnaire on stress symptoms developed by the National Institute of Occupational Health (www.ami.dk) and the general part of the SF-36, which deals with self-rated health
- The WHO depression questionnaire "Major Depression Inventory" (MDI) (12,13)

The questionnaires were discussed with the participant prior to the initial interview. Based on the WHO depression questionnaire MDI, it was established whether or not the participant had a depression. Patients with scores over 21 were referred to the Stress Clinic's psychiatric consultant. The consultant and the participant would agree on the subsequent psychiatric treatment.

Clinical examination

Depending on the anamnesis, a clinical medical examination of the participant was carried out, possibly supplemented by para-clinical serological tests, x-rays or further examinations by specialists.

Stress handling sessions

During four months, each participant had at least four sessions, each lasting 1-2 hours, where the therapists tried to convey to the participants an understanding of stress-inducing factors, the participants' own stress-level and possible ways of reducing stress, both in relation to work and to the participants' private lives. The participants were given homework to do between each session, e.g. to list tasks for the next six months, to prioritise planned tasks or to write down stressful events, work-related as well as private. The homework was discussed each time at the subsequent interview.

Thus the stress handling sessions had the following objectives:

1. To make it clear for the participants that their condition imposed a certain level of stress on their bodies. The participants were informed that the condition is time limited and that the prognosis is good, without an increased risk of setback if the treatment is followed. The participants were also informed that the treatment would take several months.
2. To change the strain which had caused the current poor level of functioning in the participants, e.g. through:
 - a. Change of workplace
 - b. Change of job tasks
 - c. Conflict resolution
 - d. Reduced number of working hours
 - e. Sick leave, possibly on a part-time basis
3. Social networks were involved in the process. The participants would be encouraged to talk with their spouse or other family members about the treatment and possible stress-reducing measures which relatives could assist with. To contribute to this involvement, the participants received their updated record after each session.
4. Through the sessions, the participants acquired tools to help them handle everyday stress-inducing incidents such as traffic, children's behaviour, etc. Relaxation exercises and breathing exercises were introduced.

Relaxation exercises

The clinical significance of being able to relax was emphasised. The participants were given a CD with a 15-minute relaxation programme, and all were encouraged to follow it every day for the duration of the treatment. The relaxation programme taught the participant to relax through

concentrating on various parts of the body, each of the time, guided by the instructions on the CD. A few were also taught breathing exercises for use in panic situations.

Exercise

The participants were encouraged to do exercise at least twice a week. In order to evaluate the effect of the exercise, the participants' blood pressure and maximum oxygen uptake while on an exercise bike were measured at the start of the intervention and after four months. The examination was carried out at the Clinical Physiological Department at Hillerød Hospital.

Stress manual

The participants were given the book "Stress", published by Denmark's Radio in connection with a series of health programmes (14). The objective was that the participants should use the book to refresh their memories regarding the information they were given during the sessions.

Contact with the workplace

During the intervention, it was appropriate to contact the participants' place of work if adjustments to their tasks or responsibilities were needed. Such contact was only made if the participant agreed. Usually, there would be one or more meetings where the participant and the author of this article met with the superior and discussed the possibilities of changing the way that work is distributed at the workplace. Finally, the participants were encouraged to let their work place know how they experienced their situation and the factors which had brought it about.

The target group of the Stress Clinic activities was working people with a work-related long-term stress situation. The media were informed about the Stress Clinic and its website (www.stressklinik.dk), where the treatment programme was described, and where people who were interested could read about referral and find advice about stress treatment. The treatment was paid for by the referring body, which could be an insurance company, a local authority, the person's employer, or – in one instance – the participant himself/herself. Each person referred to the programme was evaluated in order to decide whether it would be appropriate to invite the person to an initial interview. If so, a contract was sent to the referring body, and once the signed contract was received, the participant was invited to an initial interview. In some cases, further information was requested.

The initial interview lasted 1-1½ hours, and was used to assess whether there was a realistic chance that the participant would benefit from the treatment at the Stress Clinic. Inclusion criteria were labour market attachment, and stress symptoms related to the working conditions. Exclusion criteria were major psychiatric disorder or other ongoing psychological or psychiatric treatment. This interview and the following sessions were conducted by a specialist in occupational medicine. In cases of severe depression, or where the person already participated in some kind of treatment, it was agreed with the participant that we would refer to psychiatric or other relevant treatment.

Study design

The study was a prospective longitudinal study, in which the effect of the programme in terms of return to work and self reported symptoms in the intervention group was compared to a control

group. Data was collected at baseline, after four months, after one year and after two years. Independent variables were participation in the programme or participation in the control group, whilst the dependent variables were questionnaire-based data about symptoms and attachment to the labour market.

The intervention group.

A total of 73 people were referred to the Stress Clinic and had the possibility of participating in a four-month intervention programme, followed by evaluations after one and two years. They were treated between November 2002 and November 2004. In total 63 people completed the treatment, although seven did not attend the one-year evaluation. Data regarding their job-situation was collected by phone or e-mail. Almost half of the 63 people who completed the treatment had been referred by their place of work, whereas nearly 30% had been referred by an insurance company, and the rest had been referred by the unemployment benefit department of their local authority. For three of the ten people originally referred to the Clinic, it was agreed at the initial interview that the intervention should take place elsewhere, due to severe depression for a long time and only two of the people referred to the clinic dropped out of the treatment during the first four months. Five people who were referred to the Clinic were not offered a place on the intervention programme due to lack of attachment to the labour market or primary non occupational causes to their stress condition. For the 63 people who completed the four-month intervention programme, the average number of sessions was six. In a few cases, the treatment was extended by a couple of months.

The control group

The control group consisted of the 34 people, who had been referred to the Clinic of Occupational Medicine by their General Practitioner during the period from 1st January, 2004 to 30th September, 2004 on the basis of a stress-related illness. They all fulfilled the inclusion criteria. The control group members were given the same questionnaires as the patients at the Stress Clinic, and they had two sessions with a specialist in occupational medicine, the second four months after the first. The control group members were contacted by post one year after their first consultation, and again two years after, in order to identify their attachment to the labour market and to collect information on their symptoms. Data was successfully collected from everyone in the control group with regard to their attachment to the labour market; but only 28 completed the questionnaires (82.4 %).

Data

Only questionnaire data from baseline were used, as only data concerning RTW were complete. They were indexed so that each answer had a numerical value. Chi²-tests were used for description of the discrete confounding variables.

Furthermore, the odds ratio (OR) for a return to work was calculated using logistic regression analyses for the participants compared to the control group, both unadjusted and adjusted for relevant confounders: age, gender, MDI score and occupation. Finally ORs for possible predictive factors for RTW adjusted for the intervention were calculated. Statistics were calculated using SPSS.

Results

Table 1 here

In the control group there was a larger proportion of women than in the intervention group (77 % compared to 53 %) (Table 1). There were fewer managers in the intervention group than in the control group, but the difference was not statistically significant. The average age and the score for depression and self-rated health were the same in the two groups. Among those who received

intervention, 52 % were on sick leave from work at the start of the intervention (baseline), which was not significantly different to the 48 % of the control group who were also on sick leave.

Everyone had an anamnesis with a stress condition which had lasted for at least six months. For 43% of the people referred to the Clinic, conflicts about role expectations at work were the most important stressor, for 23 % it was very long working hours, and for 15 % the major stressor was conflict with a superior at work. Six percent had experienced bullying at work and a similar number experienced a major stressor that was primarily private in character. These data were obtained during the treatment sessions.

Table 2 here

Figure 1 here

Figure 1 shows that the number of people on sick leave decreased linearly from 52 % to 16 % during the two years in the intervention group. The difference between the intervention group and the control group was statistically significant after four months. In Table 2, the odds ratio for a return to work is calculated for the intervention group, using the control group as a reference. It shows that the chance of returning to work during the first four months was 5.4 times greater in the intervention group than in the control group. Adjusting for relevant confounders changed the estimates only minimally. After one and two years, however, there were no significant differences between the two groups, although the return to the labour market was quicker in the intervention group. The odds ratio calculations of the importance of age, gender, level of depression and occupation for the return to the labour market among those on sick leave was as follows (Table 3): Age only became significant for a return to work after one year. Gender and depression scores had no significant effect, whereas being a manager at baseline increased the OR significantly after two years.

Table 3 here

Discussion

The study indicates that

- 1) it is possible to increase the rate at which people return to work through the use of elements from the stress programme
- 2) the stress programme does not affect an individual's attachment to the labour market in the long run (after 1-2 years).

At the one-year follow-up, the participants in the stress programme emphasised that their participation in the programme and the feeling of receiving competent support were in themselves important contributions to those activities which they had to undertake in order to return to work. Furthermore, many of the participants said that the exercise had made them feel better and had increased their level of activity. On average, their fitness assessed by the exercise tests, increased by 10%, with those participants with the poorest level of fitness having the greatest increase. The fact that half of the participants in the stress programme had been referred by their employer also contributed to the success, because it made contact to the workplace easier, thereby paving the way for changes in working conditions.

It is difficult to use a control group in a study such as this simply because several of the control group members received other kinds of treatment during the follow-up period. The Stress Reception in Stockholm has had the same experience (2). This means that the effect of the present stress programme must be evaluated in relation to other types of treatment with psychologists and psychiatrists.

Approximately 60 % had a clinical depression as measured by the Major Depression Inventory in both the intervention group and the control group. as discussed by Casey et al (15) the psychiatric classification system such as the WHO-ICD-10 system (16) has inhibited research into the sub grouping of primary depression and secondary to work-related stressors, because the hierarchical approach in ICD-10 implies that persons fulfilling major depression with clearly stress-related problems will only be coded as major (primary) depression. Our result, are in this context very important as they support the suggestions by Lichtenberg and Belmaker (19) for the sub typing of a clinical depression as a syndrome that is crucially dependent on the psychosocial context in which it arises.

The main weakness of the study was however that it was not possible to recruit participants from the same source. This might effect the results in favour of the intervention group. However the MDI scores and self rated health at baseline were approximately the same in the two groups, which indicates that the comparison is meaningful.

The time spent on study was between four and eight hours per participant, and that is somewhat more than patients can expect to get from the General Practitioner. For general practise setting our recommendation would be to deliver 30 minutes, four to six times over a three to four months period when dealing with a severely stressed patient. Within this timeframe, it is possible to use most of the stress treatment tools covered by this programme. Rather than granting patients sick leave, it should be attempted to agree on only a part-time sick leave, as this greatly reduces the risk of being dismissed, at the same time as it makes the illness less dramatic and paves the way for a return to work. It should be emphasised to the patient how important it is to identify the stress factors, and that the prognosis is very good. It is also important to keep the stressed patient active by giving "homework" and exercises to do between the consultations. The patient who is not quite as stressed and does not need sick leave requires considerably fewer resources.

Previous studies of the effect of stress treatment programmes have, apart from those carried out by the Stress Reception in Stockholm, been based on studies implemented at places of work (3-9, 19-22). Therefore these studies are qualitatively different from the present study, as the contact to the workplace in these studies by definition was much closer. The Stress Reception in Stockholm has not yet published data regarding the return to work. Only one Danish study is comparable to the present study (23). This study could not demonstrate an effect on absenteeism of conventional psychological treatment of stress conditions in the setting of an occupational medicine clinic.

Conclusion

This multidisciplinary stress treatment programme showed a significant effect on the return to work rate. The programme seemed feasible for general practitioners.

Competing interests: None

Contribution of the authors: BN has been the primary investigator and main author.

PB has been supervisor regarding psychiatric conditions, assessment of these and measurements of depression

The study protocol was judged by the Committee System on Biomedical Research Ethics. The committee assessed the project as a quality development project not covered by the committee system based on the 'Guidelines about Notification of a Biomedical Research Project`.

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Figure 1. Prevalence of participants at sick leave after 4 months, 1 and 2 years in the intervention group and the control group

Table 1 Baseline data for the intervention group and control group

	Intervention group	Control group
N	63	34
Women	52.4 %	76.5 %
Age, mean years	44.5	45.0
On sick leave	52.8 %	47.8 %
MDI score > 21	60.3 %	61.8 %
Antidepressant treatment	26.9 %	22.2 %
Self-rated health: Good	53.3 %	55.9 %
Smokers	33.0 %	29.6 %
Managers	17.2 %	32.2 %

Table 2 Odds ratio for return to work in the intervention group compared to the control group

Follow-up time	Crude odds ratio (95 % CI)	Odds ratio adjusted for age and gender (95 % CI)	Odds ratio adjusted for age, gender, MDI score and occupation at baseline (95 % CI)
4 months	5.4 (1.5-19.5)	5.4 (1.3-21.8)	5.1 (1.2-21.2)
1 year	2.2 (0.6-7.5)	1.3 (0.3-6.0)	1.5 (0.3-7.0)
2 years	1.7 (0.5-6.7)	0.9 (0.2-4.9)	1.2 (0.2-6.7)

Table 3. Participants with sick leave at baseline and odds ratio for return to work adjusted for the intervention

	OR 4 months (95 % CI)	OR 1 year (95 % CI)	OR 2 years (95 % CI)
Age < 50 years/ 50+	3.1 (0.8-12.1)	17.7 (3.0-102)	38.9 (4.4-344)
Men/women	0.6 (0.2-8.0)	0.7 (0.1-1.7)	3.9(0.3- 50)
Low/high depression score	1.2 (0.3-5.0)	0.5 (0.1-2.8)	0.5 (0.1-4.1)
Employment:			
White collar	0.6 (0.1-4.9)	0.8 (0.1-7.4)	15.8 (0.6-437)
Academic	1.2 (0.1-10.8)	0.3 (0.1-2.4)	6.3 (0.2-191)
Manager	0.7 (0.1-7.7)	2.8 (0.2-58.5)	60.8 (1.3-2900)
Blue collar	1	1	1

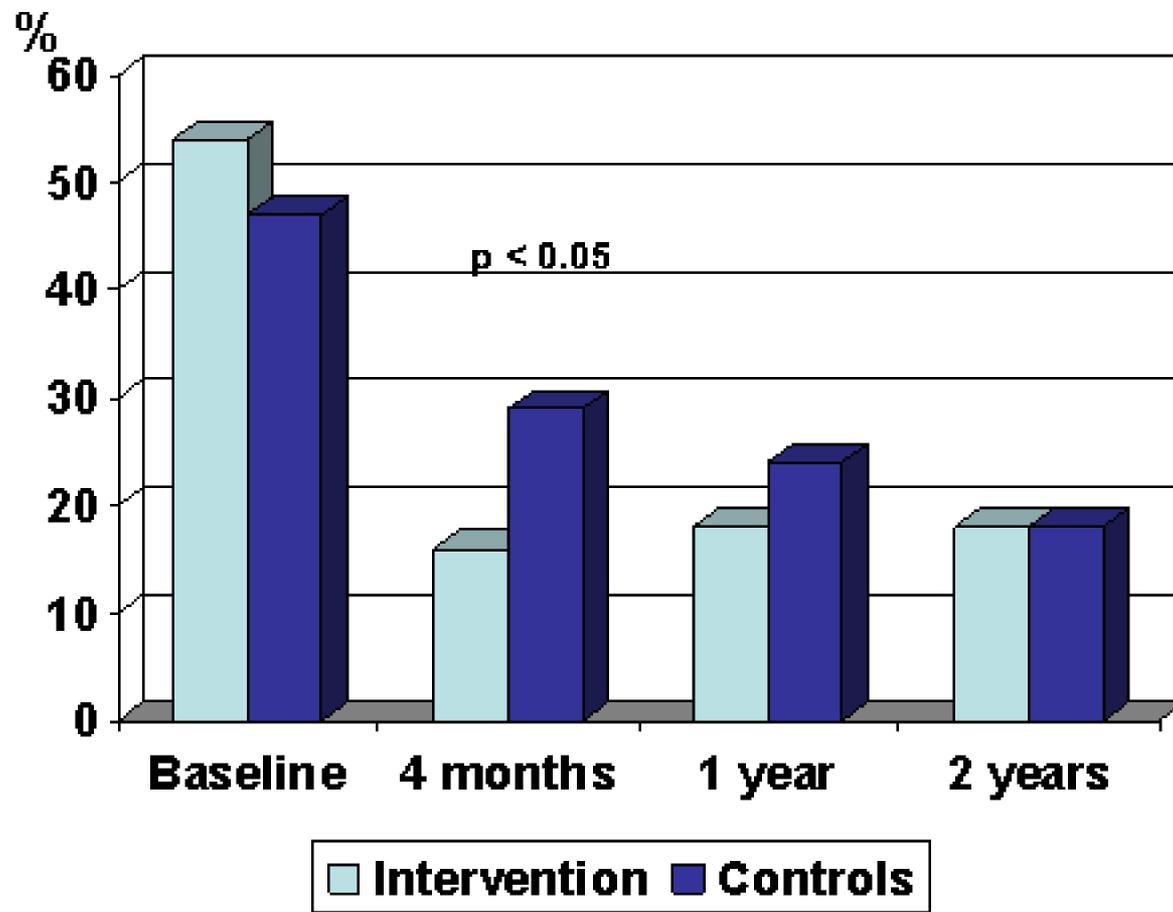


Figure 1

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