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## Feasibility and effectiveness of offering a solution-focused follow-up to employees with psychological problems or muscle skeletal pain: a randomised controlled trial

Pål Nystuen\* and Kåre B Hagen

Address: Norwegian Directorate for Health and Social Welfare, Department of Social Services Research, Norway

Email: Pål Nystuen\* - pal.nystuen@shdir.no; Kåre B Hagen - kare.birger.hagen@shdir.no

\* Corresponding author

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### Abstract

**Background:** Long-term sick leave has been of concern to politicians and decision-makers in Norway for several years. In the current study we assess the feasibility and effectiveness of offering a voluntary, solution-focused follow-up to sick-listed employees.

**Methods:** Employees on long-term sick leave due to psychological problems or muscle skeletal pain were randomly allocated to be offered a solution-focused follow-up ( $n = 122$ ) or "treatment as usual" ( $n = 106$ ). The intervention was integrated within 2 social security offices' regular follow-up. The intervention group was informed about the offer with letters, telephone calls and information meetings. Feasibility was measured by rate of uptake to the intervention, and effectiveness by number of days on sick leave.

**Results:** In general, few were reached with the different information elements. While the letter was sent to all, only 31% were reached by telephone and 15% attended the information meetings. Thirteen employees (11.5%) in the intervention group participated in the solution-focused follow-up. Intention to treat analysis showed no difference in mean length of sick leave between the intervention group (217 days) and the control group (189 days) ( $p = 0,101$ ).

**Conclusion:** Even if the information strategy might be improved, it is not likely that a voluntary solution-focused follow-up offered by the social security offices would result in measurable reduction in length of sick leave on a population level. However, the efficacy of a solution-focused follow-up for the persons reporting a need for this approach should be further investigated.

### Background

Employees with psychological problems and muscle skeletal pain comprise 61% of absence incidences in the Norwegian work force [1]. In a previous study [2], we reported the yearly incidence for long-term sick leave due to psychological problems as 2.47% (1:40). This accounts for 16.8% of all incidences and 31.5% of long-term sick leave days in Norway in 1997–98.

Due to limited availability of medical services resulting in long waiting lists for treatment, people on long-term sick leave get trapped in the "no-man's land" of sick leave. The resulting exclusion from working life might result in passivity. We wanted to develop and evaluate a tailored intervention for this group of employees to hasten their return to working life.

Counselling for sick-listed employees with psychological problems has been documented as useful in previous studies [3]. Solution-focused therapy (SFT) is a well-established therapeutic practice. The "original" version of this method was developed by Steve de Shazer and Insoo Kim Berg [4–6]. Acknowledging the experiences and recourses of the client, which are among the basic approaches in solution-focused counselling, as well as developing methods that are cost-effective and efficient in meeting their needs, were important aims for the project. The intervention is based on existing services and institutions, but we tried to make the timing and focus more efficient.

Our objective in this study was to assess the feasibility and effectiveness of offering a voluntary, solution-focused intervention for sick-listed employees with psychological problems or muscle skeletal pain. Feasibility was measured as uptake rate for the various intervention elements offered, and effectiveness was measured as days of sick leave per person.

## Methods

### Design

The study was a randomised, controlled trial.

### Participants

Employees sick-listed for more than seven weeks due to non-severe psychological problems or muscle skeletal pain were eligible. (table 1) When Norwegian employees are absent from work for more than three days, they must consult a physician, usually a general practitioner (GP). Absentees are registered by the their local social security office from the seventeenth day off work when the responsibility for sickness benefits is passed from the employer to the welfare system. There is full wage compensation for twelve months. After seven to twelve weeks on sick leave a more thorough medical examination by the GP and a follow-up by the local security office is required. The participants were selected on the basis of the diagnosis made by the GP at 7 or more weeks. The International Classification of Primary care (ICPC) has been used by Norwegian physicians since 1992 and has been evaluated to have acceptable quality as a basis for further analysis [7]. The main criteria for inclusion are all diagnoses indicating psychological distress or burnout, and different conditions of muscle skeletal pain (ICPC chapters A, L and P). Employees with very serious psychological diagnoses were excluded because many of them would probably need treatment by mental health specialists. Also some of muscle skeletal diagnoses were considered ineligible for the intervention and excluded (Table 1). The sample size was estimated based on the ability to detect a difference in length of sick leave. We estimated a sample size of approximately 150 patients per group would be needed to detect a difference of 21 or more days ( $\alpha = 0.05$  with 80% power).

**Table 1: Inclusion and exclusion criteria**

#### **General inclusion criteria:**

- Psychological problems (ICPC chapter P)
- Symptoms of general exhaustion and burn-out (A01, A04)
- Musculoskeletal pain (ICPC chapter L)

#### **Following ICPC-diagnoses were excluded:**

- Psychological problems: P70–73, P77, P80, P98.
- Musculoskeletal pain: L70, L71, L72–L76, L77–L79, L80–82
- Additional causes for exclusion: Self employed, pregnancy, graded sick leave of less than 50%, those awaiting for elective orthopedic surgery, those becoming 66 or more in the present year, foreign born persons in need of interpreter to communicate

### Recruitment and allocation

A standardised procedure was developed to ensure that all the employees who met the inclusion criteria were included and randomised. The two participating social security offices sent participants allocated to the intervention group information about the intervention and an invitation to participate. As a part of the social security offices ordinary follow-up of employees on long-term sick leave (more than 7 weeks), all employees with specified ICPC diagnoses were included in the trial (see table 1). Included persons were given a project-number and listed in two different lists. An anonymous list was sent to the project administrator at our institute when 30 persons were available for intervention. Allocation was then made to "control" or "intervention" by a using a computer-generated randomisation list and the list was returned to the local social security office, ensuring a concealed, random allocation procedure. Originally three social security offices in Oslo agreed to participate in the study. Due to logistic problems and incorrect data registration, one of the involved offices was not able to complete the study. From January to December 2001 a total of 228 persons were included from the two remaining offices (Figure 1).

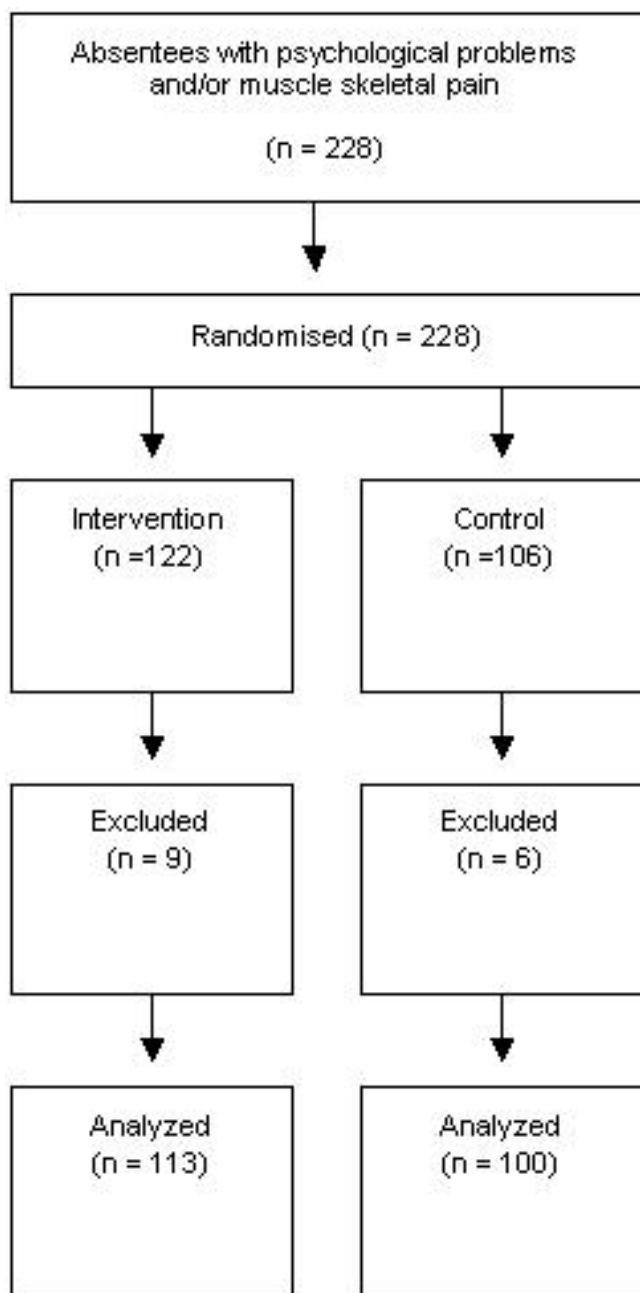
### Interventions

The information elements were based at the local social security offices and integrated into their ordinary follow-up procedure of employees on long-term sick leave. We had used the results of an exploratory study [8] to develop the information strategy and intervention. The intervention comprised the following elements:

### Information strategy

#### *Invitation letter*

The social security offices sent information about the project and an invitation to a group information meeting by ordinary mail to members of the intervention group. The recipients were asked to respond to the invitation either by telephone or mail. The information material was developed on the basis of guidelines for patient informa-



**Figure 1**  
Trial profile

tion [9], and was revised under ways based on feedback from the recipients. A letter with information about the project and copy of the letter sent to the employees were also sent to the GPs responsible for the sickness certification.

**Telephone contact**

Those who did not respond to the letter were supposed to be called by a representative at the social security office. A guide for the telephone conversation had following checkpoints: 1) Have you received our invitation? 2) What do you think? 3) Have you decided if you want to attend the meeting? 4) What do you know about the service the social security system offers and how it follows-up sick-listed employees? 5) Is there anything we can do to assist you? 6) Would you prefer to come to discuss this in a conversation with me? 7) Would you like to get in touch with the project team?

**Information meeting at the local social security office**

The information meetings were 1–2 hour sessions with 2–8 employees and one representative from the local social security office and one psychologist from the project. The meetings provided brief information about all the ordinary available services from the social security system combined with information about the solution-focused follow-up offered by the project.

**Intervention**

*Solution-focused follow-up*

The intervention group had the opportunity to use the project-based, solution-focused follow-up, either individually and/or in a group depending on individual preferences. The intervention was delivered by three psychologists, employed on a part-time basis by the project, equalling one and one-half full-time positions. They were trained and experienced in solution-focused work, in both individual consultations and group settings [10]. The focus of the consultation and for group work was the work situation, but any kind of topic was acceptable. Confidentiality was strictly observed and information was not shared with others, e.g. the employee's GP or employer, unless requested by the employee. A recent review of controlled studies, covering a wide range of treatment settings with various outcome measures, show preliminary support for the efficacy of solution-focused brief therapy [11]. The review included one study of rehabilitation of orthopaedic patients where return to work was one of the outcome measures [12]

During typical SFT sessions, therapists focus on clients' goals, exceptions, pre-treatment changes and clients' resources in general. Therapists try to do this using their clients' words and descriptions to adopt a respectful, non-blaming and cooperative stance, working towards their clients' goals from within their clients' frame of reference. They do that by asking hypothetical questions about possible futures and dreams, trying to unwrap these dreams into concrete steps of solution attainment. This is partly done by discussing exceptions and pre-treatment changes, by using coping questions and scales, and at the same

time promoting descriptions in specific, small and positive ways. Positive goal formulation includes; presence of solutions rather than absence of problems; doing more of something positive rather than doing less of something negative, and maybe most important; it should include other, significant people.

The intervention team developed "The Road Ahead Course". The course comprised 8 sessions between three and four hours where the main focus was on coping strategies, support between the participants and solutions and goals for the future. Half the time was spent in a plenary session where a topic of the day was introduced and discussed. These topics were; introduction; self-esteem; quality sick-leave; communication; handling conflict; difficult choices; coping with stress; and a follow-up with no set topic.

The other half of each session was used in smaller groups where the work was organised according to solution-focused principles of goal description, support and constructive, specified feedback. To guide the work in the small groups, we translated and adapted a concept of "reteaming", developed by Ben Furman and colleagues [13]. The participants were also invited to contact members of the solutions at work team if they felt a need for this at a later time.

The control group received "treatment as usual", i.e. written information from the social security office.

**Outcome measures**

To assess the feasibility of the intervention, the number reached by the different intervention elements and the number utilising the offered intervention was employed. In addition, reasons for not attending were explored. The effectiveness of the intervention was assessed by comparing the mean length of sick leave in the intervention group and the control group.

**Data collection and analyses**

Data on diagnosis, gender and age were obtained from the computerised registers of the local social security offices. The social security offices had also registered the number of persons reached by the follow-up telephone call. The numbers attending the information meeting and utilising the solution-focused followed-up were registered by the project administration. To explore reasons for non-attendance, we performed a telephone survey using a selected sub-sample from one of the participating offices. Data on length of sick leave was collected from the sick leave register in the National Insurance Administration 14 to 16 months after the first day of sick leave. All absence days and separate spells after inclusion in the project were recorded and added up for each individual. Traditional

descriptive statistics were used. Difference in length of sick leave between the groups was tested on the basis of intention to treat analysis with Students t-test. Because the number of sick days may not be normally distributed we also employed non-parametric statistics (Mann-Whitney U) for this test. The analysis was done on a personal computer with SPSS, version 11.0.

**Ethics**

The Regional Medical Ethics Committee approved the study.

**Results**

In total, 228 persons were included. One hundred twenty-two were allocated to the intervention group and 106 to the control group (table 2). Nine (4%) in the intervention group and six (4.8%) in the control group were excluded due to: insufficient language skills (2); being offered the intervention in the control group (2); wrong diagnosis (4); received the offer before seven weeks of absence (4); pregnancy (2); and death (1). (See inclusion criteria in table 1.) In the intervention group 66 (58,4%) had psychological problems versus 47 (47%) in the control group (table 2).

**Feasibility**

*Uptake rates*

In general, the uptake to the "interactive" intervention elements was low. The information letter was sent to all those allocated to the intervention group. Thirty-five persons (31%) of non-responders to the letter were reached by telephone (Table 3). Of the one hundred thirteen eligible persons who were offered the intervention, seventeen (15%) attended the information meeting, and thirteen (11.5%) chose individual and/or group intervention. Three of these chose only individual follow-up, two chose group only, while eight preferred a combination of group and individual follow-up.

*Reasons for not attending*

Puzzled by the low uptake rate, we did a telephone survey among a selected sample of non-responders (n = 41) to

**Table 2: Characteristics of the participants**

Characteristics	Intervention group (n = 113)	Control group (n = 100)
Mean age(SD)	40.71 (sd10.8)	40.12 (sd10.95)
Musculoskeletal pain	47 (41.6%)	53 (53%)
Psychological problems	66 (58.4%)	47 (47%)
Men	40 (35.4%)	42 (42%)
Women	73 (64.6%)	58 (58%)

**Table 3: Uptake rates for the different information elements and the intervention**

Elements	Uptake rate
<b>Information</b>	
Information letter	113 (100%)
Reached by telephone	35 (31.0%)
Attending the information meeting	17 (15%)
<b>Intervention</b>	
Attending solution focused follow up either individually or in group	13 (11.5%)

investigate why only 11% of the population used the interventions we offered. For twelve of these, we could not find a telephone number in any telephone directory, and eight did not answer any of the 2–3 phone calls which we made only during working hours, resulting in a loss of 48% of our sample. Of the 21 people (51.2%) we managed to reach, eight (19.5%) had returned to work or were returning in the near future, eight reported a satisfactory treatment scheme, while five (12.2%) wanted to establish contact with the project team after the call. Reasons given to why these five hadn't acted on the first offer were language problems; forgot about the letter; and not received the letter.

### Effectiveness

The length of sick leave and results from parametric tests are shown in table 4. There was an increased length of sick leave in the intervention group (median 214 days) compared to the control group (median 189 days), but the difference was not statistically significant ( $p = 0.105$  Mann-Whitney U). For the subgroup with muscle skeletal pain, the control group had a mean of 30 days less than the intervention group ( $p = 0.071$  Mann-Whitney U), and in the subgroup with psychological problems, the control group had a mean of 5 days less than the intervention group ( $p = 0.832$  Mann-Whitney U). Explorative analyses not pre-specified in the protocol revealed an interesting difference between men and women. While length of sick leave for women in the intervention group was on average 7 days less than the control group ( $p = 0.628$  Mann-Whitney U), the corresponding difference for men was 58 days in the opposite direction ( $p = 0.002$  Mann-Whitney U).

### Discussion

Less than one third of the intervention group was reached by the information elements that we expected to be most powerful (telephone calls and information meeting), and only 11.5% attended the solution-focused follow-up. Even if the information strategy might be improved, it is not likely that the uptake rate for the solution-focused follow-up could be increased to more than 20% to 25%. We

therefore conclude that offering a voluntary solution-focused follow-up by the social security offices will not result in measurable reduction in length of sick leave at the population level for employees on long-term sick leave due to psychological problems or muscle skeletal pain.

The strength of this study is that it is a randomised comparison with 100% follow-up for the main outcome, days off work. An important weakness is that one of the three participating social security offices was not able to manage with the procedures and logistics and had to withdraw. The study was designed to measure the effects of offering a solution-focused-up on a population level and must be interpreted cautiously with respect to the possible effects of this approach for individual patients.

What factors can explain the low uptake rate of participants to the solution focused follow up? Introduction of new services is known to be slow when first introduced [14]. The two most common reasons for not attending have been; "Returning to work soon" or "Are already receiving relevant/sufficient treatment". Offering this intervention by mail from the local social security offices might also have reduced the uptake; some might regard this as a means of saving money or as a control strategy. Maybe more persons would have used it if their physician offered it? Our target group is very heterogeneous and we have not done any pre-selection except by main diagnosis. This was done intentionally to encourage "self-recruitment", hopefully increasing motivation and avoiding resource demanding selection procedures. Promotion strategies through media or other information channels were not possible due to randomisation procedures. We believe that the quest for the "ultimate intervention" to reach most of the target population might be forfeit. A realistic aim for this type of wide scoped intervention might be 15–20% uptake rate. Considering a target population of at least 100000 sick listed employees per year in Norway still is a considerable group of people that might be helped through this relatively brief intervention.

The difference in lost workdays between groups was not significant, but never the less showed a tendency for the intervention group to have longer absences. If this tendency is related to the effects of the intervention, what could the reasons be? The "Road Ahead" program in itself might increase the length of sick leave at short term. All of the participants decided to make smaller or larger changes in their lives. For most people, change takes time, especially when it involves career change. If this is a valid explanation to the group difference, we might expect to see difference in future work status and "change behaviour" among our participants. Present status (work, treatment, future plans) and different types of change

**Table 4: Mean length of days off work**

	Intervention			Control			Mean Diff.	95% CI	t-test p-val.
	n	Median	Mean (SD)	n	Median	Mean (SD)			
Lost work days total	113	214.0	217,12 (84,41)	100	189.0	198,14 (83,44)	18.98	-3,75 to 41,70	0.101
Muscle-skeletal pain	47	217.0	216,64 (87,52)	53	162.0	185,83 (81,62)	30.81	-2,77 to 64,38	0.072
Psych. problems	66	205.0	217,45 (82,81)	47	196.0	212,02 (84,16)	5.43	-26,10 to 36,97	0.733
Men	40	240.0	229,03 (77,94)	42	158.0	171,33 (73,57)	57.69	24,40 to 90,99	0.001
Women	73	206.0	210,59 (87,59)	58	206.5	217,55 (85,37)	-6.96	-40,01 to 23,18	0.648

behaviour should therefore be considered as outcome measures in future studies. The program is aimed at those interested in or in need of making changes in their lives.

Twenty-one of the 41 persons we tried to contact for the telephone survey were reached. This contact resulted in five additional participants in the intervention. If these figures are representative, this might indicate room for increasing the recruitment rate by improving the use of telephone contact by the social security offices. It was surprisingly difficult to reach persons on sick leave by telephone. A 'practical' result of our study is that the registration of sick-listed employees at the social security offices ought to include a telephone number where clients can be reached. Utilisation of the telephone has shown great potential in various settings [15] and if our study is anywhere near representative, the possibilities for improvement seems apparent.

The difference we observed in outcome for men and women corresponds to both popular beliefs and research concerning sex differences in help-seeking behaviour [16]. Could it be that most men experience this kind of offer as a kind of input that actually makes it harder for them to improve their health status and return to work? The approach might have been perceived as an "emphatic gesture" that actually reduced their expectation to get back to work. This phenomenon has been observed in other settings [17]. We hope to pursue this line of investigation in our future work in this field.

Previous experimental studies in Norway in this area are few, but one study [18] shows that personal or telephone follow-up by social security officers was effective in reducing number of lost days absent from work. Another recent study looking at the efficacy of a group intervention for sick-listed employees with muscle skeletal disorders [19] reduced lost work days in the intervention group and also reduced help seeking behaviour. A recent systematic review showed a dramatic difference in effect between two distinctly different approaches to rehabilitation of persons with severe psychological problems. Supported

employment return 34% of their users to regular employment after 12 months, while with the more traditional approaches of pre-employment training 12% are in ordinary jobs [20].

There is limited evidence showing specific effects of different psychotherapies [21]. Some argue that "common factors" is the change engine of all approaches. We have chosen a solution-oriented approach partly because of the limited time perspective of our interventions. The project team developed the group intervention labelled "The Road Ahead Course". We think it is important to have a 'none treatment profile' in this setting, hopefully preventing the "production" of chronic patients. We considered the participants as normal people facing normal troubles of modern life. The aim is to turn a negative circle of failing health into positive circles of change. It remains to be seen if this will have any effect on number of days absent or on perceived health.

**Conclusions**

We conclude that even if the information strategy might be improved, it is not likely that a voluntary solution-focused follow-up offered by the social security offices will result in measurable reduction in length of sick leave at the population level. However, the effects of a solution-focused follow-up for individuals that might be in need of this intervention could not be established in this study and should therefore be investigated.

**Competing interests**

No competing interests

**Authors' contributions**

Both authors participated in the design of the study. Both coordinated and supervised the study. PN wrote out the main parts of the background, methods and discussion. KBH supervised the statistical analysis and methods section. Both authors read and approved the final manuscript.

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