Paper II

Physical and mental functioning in disability pensioners with back pain

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Date of submission:

02.06.2006

Short title:

Functioning in disability pensioners

ABSTRACT

Objective: To describe physical and mental functioning in a group of back pain disability pensioners with back pain. Also, we wanted to explore to what extent a positive expectancy for returning to work was present in this group, as such expectancy tends to be a strong predictor for return to work in patients on sick leave due to back pain.

Methods: A cross sectional study was used. A test battery consisting of several questionnaires and physical performance tests were used to assess physical and mental functioning.

Results: Of 431 eligible disability pensioners, 21 percent [N=89; mean age: 49 years, 65 percent women] volunteered for the study. Considerable physical limitation, emotional distress, pain, and reduced health in general were demonstrated in this group. Only 18 percent [N=15] of the participants believed that they would eventually return to work. Lack of belief in returning to work was related to very poor physical and work-related function, and also to high levels of fear avoidance for physical activities.

Conclusions: Expectancy for returning to work and factors related to this expectancy should probably be taken into consideration when planning re-employment efforts for this group. Due to low participation rate, the results may not be characteristic of disability pensioners with back pain in general.

KEY WORDS: Disability pension, low back pain, functioning, disability, return to work, physical performance

INTRODUCTION

Low back pain [LBP] is considered the single most important cause of sickness absence and disability pension [DP] in Norway (1) and in other western countries (2). Since 1989 the prevalence of individuals receiving DP due to back pain has steadily increased, reaching 15 percent in Norway in 2002 (3). The consequences of LBP may, accordingly, be immense for the society and be grave for the individual.

During the last decades it has become increasingly acceptable to receive state benefits and compensation for long-term disability due to LBP (2). The social security systems in the western world have granted generous compensations for lost income (4,5). These benefits might have discouraged persons on sick leave and DP from finding their way back to working life (6). Such a financial commitment by society may be impossible to carry on for future generations, and promoting a return to work has become an intended goal of health policies in western countries (7). In Norway, a time limited DP has recently been introduced, although some may be permanently disabled irrespective of the insurance regulations and rehabilitation attempts. This puts a greater emphasis on bringing disabled persons back to work and may prevent them from being permanently disabled although some may be permanently disabled irrespective of the insurance regulations and rehabilitation attempts. In this arrangement the disability pensioners' work ability is to be reassessed after one to four years, but there is no consensus or established routine regarding what to assess and how it should be performed.

Functional and mental assessments seem crucial when deciding who is entitled to receive sickness benefit and DP. Several studies have described work-related functional ability of individuals on short and long term sick leave due to LBP (8-12). However, little is known about functioning in disability pensioners. Back pain is, by nature, a reversible condition (2), and after several years out of work, one might presume that the condition has improved for some. However, disability pensioners with LBP have not been studied in any detail previously. Thus, it is virtually unknown if they represent a potential "work force" ready to be reactivated. An earlier

study (13) has shown that the likelihood of ever returning to work after being off work for more than two years is very low. In Norway, the disability process is time consuming, and when DP eventually is granted, most recipients have been out of work for at least three years, suggesting that the prognosis for a return to work in this group is very low. Positive expectation has been found to be a strong predictor for return to work in patients on long-term sick leave (2,14,15), and probably plays an important role for returning disability pensioners to work as well. One might also assume that physical and mental functioning is of importance and might possibly be related to expectations regarding return to work in the future, but little is known about these associations.

The aim of the present study was 1. to examine physical and mental functioning in persons receiving DP due to LBP, and 2. to examine expectation for future return to work and to elucidate the relationship between functioning and expectation. In our opinion, such knowledge is of vital importance when planning programs intended to bring disability pensioners with LBP back to work.

MATERIALS AND METHODS

Design

A cross sectional design was used in the present study.

Participants

Individuals receiving DP due to a back pain diagnosis in the county of Hordaland, Norway, were eligible for the study [N=431]. Other inclusion criteria were age from 18 to 55 years, permanent DP for at least one year, and full disability benefit payment. None of the eligible individuals were on time limited disability pension. Disability pensioners older than 55 years are getting close to retirement age, and are thus not likely to return to work. Information about reasons for being retired other than the back pain diagnosis was not available. The disability pensioners were recruited through the National Insurance Administration [NIA] and

4

the Regional Insurance Administration [RIA]. An information letter was sent to all individuals who fulfilled the inclusion criteria [N=431]. They were invited to participate primarily to get increased knowledge about their present functional ability and health status, and secondly to help those who were motivated to return to work. It was emphasized that everyone was welcome to participate, whether they believed that they eventually could return to work or not. They were informed that participation in the project was voluntary and would not affect their current DP status. Eighty-nine [21%] of all eligible individuals consented to participate [Figure 1]. The study was performed according to the Helsinki Declaration, and was approved by the Regional Ethics Committee and the National Data Inspectorate in Norway.

Procedure

Descriptive data of the whole population of individuals on gender, age, and number of years receiving benefit, was collected by the National Insurance Statistics. Part 1 of a comprehensive questionnaire was mailed to the individuals who had consented to participate [N=89]. During the next few weeks those participants met for physical testing. Reasons for not attending the testing were reported as health problems, vacation, long way of travel, receiving treatment, or forgetting the appointment. Further, some did not perform some tests as they feared to provoke further pain, or they considered themselves incapable of performing some tests due to physical limitations. Part 2 of the questionnaire was filled in before physical testing and the questionnaire was mailed to those who did not attend.

Measures

Questionnaires commonly used to assess physical and mental functioning in patients with back pain were included in a comprehensive questionnaire. In addition some standardized questions were posed related to the status of being on DP. Physical performance tests capturing

activity limitation in back pain were also included. Questionnaires included in part 1 and part 2 is marked accordingly.

Questionnaires

Numeric Rating Scale[1]: The Numeric Rating Scale [scale of 0-10] where 0 indicates no pain and 10 pain as bad as it could be was used to measure present pain intensity (16). Reliability and validity have been found satisfactory in patients with LBP (17,18).

Roland Morris Disability Questionnaire[1]: The Roland Morris Disability Questionnaire [scale of 0-24] is a reliable and valid measure used to evaluate disability in daily function (19,20). Twenty of the items concern limitations in different daily activities; four items concern pain, sleep, and mood. Each item is scored 0 or 1 and summarized to one score from 0 to 24 [a higher score indicates higher disability]. A Norwegian version was used (21).

Norwegian Functional Scale[1]: The Norwegian Functional scale [NFS; scale of 0-4] is a recently developed instrument used to assess work related function (22). Each number is rated from 0 [no difficulties] to 4 [can not perform]. The scale consists of 39 items and can be divided into four physical dimensions [walking/standing, holding/handling, lifting/carrying, and sitting] and three mental dimensions [coping, communicating, and sensing], and has been shown to be a valid instrument for evaluation of work related function (22).

Fear Avoidance Beliefs Questionnaire[2]: The Fear Avoidance Beliefs Questionnaire [FABQ] is a well validated instrument for measuring fear avoidance beliefs (23). The FABQ consists of 16 items and is divided into two subscales: fear avoidance for work [FABQ-W; scale of 0-42] and fear avoidance for physical activity [FABQ-PA; scale of 0-24]. Higher numbers indicate more fear avoidance. The FABQ has been used in several Norwegian studies, and good reliability and validity has been demonstrated (24,25).

Short Form 36 Health Survey[2]: The full version of Short Form 36 Health Survey [SF-36] was used to measure health-related quality of life (26). Good psychometric properties have been

demonstrated in the Norwegian version (28). The SF-12 physical and mental health summary scores were computed by use of the published algorithm (27). The SF-12 has been shown to reflect most of the information yielded from the full SF-36 (28). A low score is a score below 50 and a high score is a score above 50 (26,29).

Cantril Ladder Scale[2]: The Cantril Ladder Scale is a 10-point vertical numeric rating scale [1 is the worst score; 10 is the best score] was used to measure life satisfaction (30).

Subjective Health Complaints Inventory[2]: The Subjective Health Complaints Inventory [SHC] was used to measure subjective health complaints (31). The SHC consists of 29 questions regarding common somatic and psychological complaints over the last 30 days. Each item is rated from 0 [no complaints] to 3 [severe complaints]. The scale can be divided into five subscales: musculoskeletal complaints, pseudoneurology [tiredness, anxiety, extra heart beats, dizziness], gastrointestinal complaints, allergy, and flu. In the present study we have only looked at the three first subscales. Good reliability and validity have been demonstrated (31).

Hopkins Symptom Checklist[2]: The Hopkins Symptom Checklist [HSCL-25] which consists of 25 items was used to measure emotional distress (32). Each item is rated from 0 [not at all] to 4 [very much]. A person is considered in need of treatment if the mean rating is greater than or equal to 1.75. This cut-off point seems to reflect non-specific distress rather then a psychiatric diagnosis (33). The Norwegian version of the HSCL-25 has been used in several Norwegian studies (24,33).

Structured Questions[1]

Participants were asked a number of questions related to socio-demographic variables: age, gender, education [years], number of years out of work, lifestyle, and sleep [how well have you been sleeping the last three months, answered on a five-point scale, from very good to very bad].

Work ability was rated on a five-point ordinal scale by answering the question, "To what degree is your ability to perform your ordinary work reduced today?" The question has been used for self-assessment of work ability in patients sick-listed with back pain (34).

General health was rated by answering the question, "In general, how do you assess your health?" on a five-point ordinal scale. This method has been widely used internationally for measuring general overall health, and has been demonstrated to predict work retirement (35).

Expectations of a return to work were evaluated by one single question, "Do you believe that you could be able to return to work eventually?" answered on a three-point scale [yes, no, and do not know]. The question was dichotomized into "yes" in one category [interpreted as positive expectancy], and "no" and "do not know" in the other [interpreted as negative expectancy].

Physical Functioning

Back Performance Scale: The Back Performance Scale [BPS] is a physical performance measure, giving a sum score [0 to 15] of five activities requiring dynamic flexibility of the trunk [sock test, pick-up test, roll-up test, fingertip-to-floor test, lift test], each rated on a four-point ordinal scale (36). Good reliability and validity have been demonstrated (37). It has been shown that BPS can discriminate between patients who returned versus those who did not return to work at the one-year follow-up in patients on long-term sick leave due to back pain (36).

President Urhu Kaleva Kekkonen [UKK] Institute for Health Promotion Research, Tampere, Finland test battery for Health-Related Fitness: The UKK battery comprised of five reliable and valid tests was used to assess musculoskeletal fitness [neck and shoulder flexibility, static balance, dynamic balance, dynamic sit-ups, and modified push-ups] (38,39). The tests are rated from 1 [considerably below average] to 5 [considerably above average] according to reference values collected from population studies in Finland.

The UKK walking test, which is based on 2 km walking and is a valid method to measure aerobic fitness, was used (40,41). A fitness index is calculated based on performance time for the walk, heart rate immediately at the finish, body mass index [BMI], and gender. The fitness index is strongly related to measures of maximal rate of oxygen consumption (42), and is divided into five fitness categories [from considerably below to considerably above average] based on reference values collected from population studies in Finland.

Statistical Methods

Descriptive statistics were used to analyze the data. Independent sample t-tests and chi-square tests were used to examine continuous and categorical data, respectively. Multivariate analysis of variance was used to examine overall differences in subscales between those who believed they would return to work and those who did not. The association between expectations for not returning to work and demographic, psychological, and/or physical variables were examined by logistic regression analysis. Expectations of return to work [dependent variable] was dichotomized with "yes" in one category [those who believed they could return to work], and "no" [those who did not believe they could return to work] or "do not know", which was considered a rather negative expectation] in the other. Differences in test scores between those who believed and those who did not believe that they could return to work were examined by independent t-tests. However, data from ordinal scales and data not normally distributed were examined by Mann-Whitney U test. Variables that differed significantly between the two groups were included in a logistic regression analysis. All variables were dichotomized using the median score as the split point. The logistic regression analysis was adjusted for age and gender, and because of few observations, each of the explanatory variables were analyzed separately.

RESULTS

An information letter was sent to 431 individuals. Eighty-nine individuals [65 percent women] receiving DP due to back pain participated in the study. The mean age was 49.0 years [standard deviation [SD] = 5.4] ranging from 36 to 56.

Non-attendees

Of the eligible 431 individuals, 342 [79 percent] did not attend the study. Twenty-five reported that their extensive health complaints prevented them from attending, 28 pointed out that the process of claiming DP had been so strenuous that they did not want to enter such a process again, three individuals claimed they had tried "everything" before, and five were waiting for surgery. The majority [N=286] did not give any reason for not participating.

There were no significant differences in gender [χ=2.7, P=0.10], age [T=-1.4, P=0.15], or number of years out of work [T=-0.29, P=0.77] between those who participated in the study [N=89] and the non-attendees [N=342].

Participants

The participants had received DP for a mean of 9.5 years [median=9, range 1.5 to 31.5 years]. Seventeen percent had education higher than high school, and only one of these had University education more than 4 years. Poor quality of sleep was reported by 50 percent, while only 14 percent reported good quality. Fifty-five percent had previously undergone surgery [Table 1]. Fifty-six pensioners [63 percent] had unspecific LBP as main diagnosis for being granted DP, 5 pensioners [6 percent] had spondylolisthesis, 11 [12 percent] had spondylosis, 13 [15 percent] had nerve root pain, 4 [5 percent] had spinal stenosis. Previous occupations were: professionals [N=1], technicians and associate professionals [N=8], clerks [N=6], service, shop and market sales workers [N=18], agricultural, forestry, and fishery workers [N=4], craft and related trade workers [N=10], elementary workers [N=40].

A total of 15 [18 percent] participants of the study believed that they could eventually return to work, 42 [50 percent] did not believe they could return to work, and 27 [32 percent] did not know if they could return to work.

Insert Table 1 about here

Physical and Mental Functioning

Disability was demonstrated by all self-report and performance measures of physical and mental functioning [Table 2]. The SF-12 physical component score was low, more than 2 SDs below the population norm (26), while the SF-12 mental component score was only 0.3 SDs below the population norms. Also work-related and daily functioning was limited. Work ability was reported to be much or very much reduced by 77 percent, while 2.5 percent reported that their work ability was scarcely reduced at all. Nearly all reported that they usually had pain, and the mean levels of pain were high. They also reported high levels of subjective health complaints related to different parts of the body and mind [co-morbidity]. Only 22 percent reported good health, while 40 percent reported moderate health, and 38 percent reported bad health. Substantial emotional distress was demonstrated among the participants, as almost 50 percent of the subjects had scores above 1.75 on the HSCL-25, which is considered an indication of being in need of treatment.

Insert Table 2 about here

Those Who Believed versus Those Who Did Not Believe They Could Return to Work

In our study 80 percent of the participants [N=69] did not believe that they would return to work eventually. Those who believed they could return to work reported less work-related disability [P=0.03] measured by the NFS, and they demonstrated significantly better

performance of dynamic mobility of the trunk [BPS; P=0.01], neck and shoulder flexibility [P=0.03], dynamic sit-ups [P=0.02], and tended to have better aerobic fitness [P=0.07], less fear avoidance for physical activity [P=0.03], and to report less fear avoidance for work [P=0.07] compared to those who did not believe in a return to work. However, overall comparisons of the NFS subscales demonstrated no significant difference between the groups [Wilks Λ=0.92, df =7, P=0.60]. There were no differences between those who believed in return to work and those who did not on the subscales of SF-36 [Wilks Λ=0.86, df=8, P=0.29] or on subscales of SHC [Wilks Λ=0.97, df=5, P=0.86]. Among the sociodemographic variables, only BMI was significantly lower in those who believed they could return to work compared to those who did not [P=0.02].

Factors Related to Belief in Future Return to Work

The likelihood of not believing in a return to work was high when physical performance was poor, especially in dynamic mobility of the trunk measured by the BPS [Table 3]. Self-reported problems with work-related function, fear avoidance of physical activity, believing that work would worsen their pain, and high BMI were other factors that increased the likelihood of not believing in a return to work. Since none of those who believed in a return to work reported that they had dark expectation for the future, this variable was not included in the regression analysis.

Insert Table 3 about here

Discussion

Most disability pensioners who participated in the study demonstrated severely impaired physical function assessed by self-report as well as by physical performance measures. They also reported high levels of pain, fear avoidance beliefs, distress, sleep disturbances, and other health complaints. A majority [80 percent] did not see themselves as being able to return to work and

they were characterized by having more physical problems and more fear behaviour than the pensioners who believed they would return to work in the future. Poor physical health more than poor mental health appeared to be an obstacle for believing in return to work.

Most of the participants had considerable reduced physical function as measured by self-report questionnaires and physical performance tests. Our findings are in line with those of a recent study on individuals with chronic back pain who had been unemployed for more than three years (43). The disability pensioners demonstrated, however, worse functioning than what is reported in patients sick-listed due to chronic back pain (44). Dynamic flexibility of the trunk assessed by the BPS in the present study was markedly impaired and was similar to what was reported in a previous study of patients who failed to return to work one year after rehabilitation. Patients who succeeded in returning to work had considerably better performance (36). As a group, people on DP due to back pain seem, accordingly, to represent a group with rather grave functional problems. The fact that they have been out of work for several years does not seem to have improved their condition, although a longitudinal study is needed to eventually verify this impression.

A possible explanation of questionnaire derived data indicating severely reduced functioning might be that the pensioners tended to amplify their physical disability to justify their benefit. However, the physical performance data gave further credence to the impression that the disability pensioners actually had severely reduced physical function. Poorer results of physical performance testing in patients with chronic LBP have been found to be related to fear of injury during movement (45,46) and pain expectations (47). However, many of the physical tests used in the present study simply implied performing light activities related to daily life tasks such as picking up a light object from the floor and putting on a sock. Fear of pain or lack of motivation was considered to have a minimal impact on the performance of such activities as they are easily performed.

The disability pensioners also reported that they had pain most of the time, and they had increased levels of fear avoidance and emotional distress. Self-reported pain, fear avoidance behaviour, and distress was found to be more pronounced in our participants than reported in other studies of back pain patients (24,48). Waddell (2) has suggested that prolonged pain might lead to distress and fear of activities that might worsen their general condition, which in turn might aggravate pain and disability (2). Our participants had also related complaints such as sleep disturbance and lack of energy; most [38 percent] rated their overall health as poor. Self-reported poor health is of great concern, as it is found to be related to increased morbidity and work retirement (49). While more than 80 percent reported to be in good health in the general population (50), only 20 percent reported to be in good health in our study. Furthermore, the presence of co-morbid conditions also increases the risk of being work disabled (51). Considerably more subjective health complaints were reported among our participants as compared to findings in the general population (52).

The major physical and mental difficulties demonstrated in our study may indicate that for many disability pensioners, the health conditions get worse as time goes by. This impression is supported by statements from the pensioners themselves in focus group interviews (53). Further support is given by several authors (54-56), and thus, the task of bringing disability pensioners back to work may seem a challenging task for most and unrealistic for some. However, we were able to identify a subgroup which differed significantly from the majority. Fifteen [18 percent] of the pensioners believed that they could see themselves returning to work some time in the future. This group was characterized by better physical function and less fear avoidance behaviour than the rest. To have a positive expectancy has been shown to be a strong predictor for recovery and return to work in all sick-listed patients, as well as those who are sick listed with back pain (14,57). One might speculate that better physical and mental health might lead to a more optimistic view, although the opposite might also be true. Since the frequency of transition from DP to work generally is very low (7,58), it seems reasonable to focus vocational

rehabilitation programs on disability pensioners having a positive expectancy towards returning to work, although future studies are needed to verify that disability pensioners with such a positive expectancy are, in fact, most inclined to return to work. Because of the association between a positive expectancy for return to work and what seems to be less severity of the back pain condition, this group might be identified through a brief interview. Whether it is possible to influence a more positive expectancy simply through motivational courses remains to be seen. Another approach may be to focus on improving physical functioning among the disability pensioners. However, extensive treatment has already been tried out, and the success of treating patients with such long-lasting back pain may be limited (59).

The fact that most of the disability pensioners had a negative expectancy for returning to work might partly be explained by their poor health condition. Low education and feeling estranged from working life might add to this negative expectancy. Another important factor that might influence expectancy is the situation of the labour market. Even if the unemployment rate in Norway is relatively low, it is difficult for disability pensioners to re-enter work because there is a lack of adjusted work places suitable for individuals with disabilities, and employers mostly seek highly skilled employees. It would be a Governmental responsibility to encourage employers to increase employment of individuals with less than a perfect functioning.

A major limitation in our study was the low response rate, as only 21 percent of the eligible population agreed to participate in the study. An inquiry to evaluate their health status and functioning and invitation to enter into a process which might help them return to work might seem threatening to many, and in retrospect, a low response rate was to be expected. It has previously been reported (60) that some claimants may not attend medical examinations because they fear being found fit for work, and thus loosing the benefit on which they and their families are dependent. Such fear might have contributed to a low attendance rate in our study. However, other patients might feel that participation was useless as their extensive health problems prevented them from even considering going back to work. Since the generous benefits among

disability pensioners in Norway give most a satisfactory financial situation, this might discourage many from considering returning to work, as it would only imply a limited improvement of income (6). Because of the low response rate and the possible selection bias mentioned here, the results might not be representative of disability pensioners with back pain in general. There were a low number of participants in the logistic regression analysis, leading to large confidence intervals and artificially high odd ratios in the prognostic part of the study. Therefore, the results must be interpreted with caution.

Our study indicates that the majority of the disability pensioners with back pain has low expectancy of returning to work and is in a poor physical and mental condition, making a successful return to work unlikely. In order to make rehabilitation programs more effective, one should try to identify the subgroup of individuals with a positive view towards returning to work and a less severe physical status, as we expect that these individuals will be those most likely to succeed. Further studies are needed in order to assess whether this subgroup will, in fact, be more likely to succeed in vocational rehabilitation.

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Table 1. Background Characteristics of Disability Pensioners, N=89		
Variable	**mean ± SD, N [%]**	**P-Value**
Mean age [years] ± SD	49.0 ± 5.4	0.14
Female [N,%]	58 [65]	0.16
Mean BMI [kg/m^2] ± SD	25.3 ± 3.2	0.02
Mean DP [years] ± SD	9.5 ± 5.2	0.72
Mean education [years] ± SD	11.3 ± 2.3	0.31
Married [N,%]	56 [67.5]	0.36
Smokers [N,%]	50 [61]	0.52
Sleep [N,%] very good/good modest very bad/bad	15 [13.7] 26 [32.1] 40 [49.3]	0.48
Surgery [N,%]	43 [55]	0.07

P-values reflect differences between those who believed [N=15] and those who did not believe they could return to work [N=69], examined by independent samples t-tests or chi-square tests

SD = standard deviation, % = percent, P<0.0

Table 2. Description of Test Data of Disability Pensioners, N=89

Variable	Total Sample mean ± SD	Believers mean ± SD	Non-believers mean ± SD	P-value
Numeric Rating Scale [1-10][b]	6.8 ± 1.7	6.6 ± 1.7	6.8 ± 1.8	0.81
Roland Morris Questionnaire [0-24][b]	14.1 ± 4.2	12.9 ± 3.9	14.3 ± 4.1	0.28
Norwegian functional scale, total score [1-4][b]	1.7 ± 0.4	1.5 ± 0.4	1.8 ± 0.4	0.03
Walk/stand [1-4]	2.1 ± 0.6	1.9 ± 0.7	2.1 ± 0.6	0.23
Holding/handling [1-4]	1.6 ± 0.4	1.4 ± 0.4	1.6 ± 0.4	0.09
Lift/carry [1-4]	2.1 ± 0.6	1.7 ± 0.5	2.2 ± 0.6	0.01
Sitting [1-4]	1.9 ± 0.6	1.7 ± 0.6	1.9 ± 0.6	0.36
Coping [1-4]	1.6 ± 0.5	1.5 ± 0.6	1.6 ± 0.5	0.37
Communicate [1-4]	1.4 ± 0.5	1.3 ± 0.4	1.5 ± 0.5	0.24
Senses [1-4]	1.1 ± 0.3	1.1 ± 0.3	1.1 ± 0.3	0.50
Work ability [1-5][a]	1.9 ± 0.9	2.1 ± 0.7	1.9 ± 0.9	0.47
Fear Avoidance for Physical Activities [0-24][b]	14.3 ± 6.1	10.8 ± 6.5	14.8 ± 5.9	0.03
Short Form-36[a]				
Physical component scores [0-100]	29.0 ± 7.8	28.5 ± 7.8	29.3 ± 8.0	0.74
Mental component scores [0-100]	47.7 ± 12.7	46.3 ± 15.0	48.4 ± 12.2	0.73
Life satisfaction [a]				
Today [1-10]	4.7 ± 1.8	4.7 ± 1.5	4.7 ± 1.8	0.92
1 year ago [1-10]	4.9 ± 2.0	4.7 ± 2.2	4.8 ± 1.9	0.84
In 1 year [1-10]	5.3 ± 2.0	5.9 ± 1.8	5.1 ± 2.0	0.24
Subjective Health Complaints, total score [0-87][b]	25.5 ± 13.0	22.0 ± 12.7	26.2 ± 13.0	0.28
Musculoskeletal pain [0-24]	12.0 ± 4.8	10.9 ± 5.0	12.3 ± 4.7	0.35
Pseudoneurology [0-21]	6.3 ± 4.0	5.7 ± 3.9	6.2 ± 4.0	0.67
Gastrointestinal problems [0-21]	3.4 ± 3.9	2.2 ± 3.2	3.8 ± 4.1	0.21
Hopkins Symptom Checklist-25, total [1-4][b]	1.8 ± 0.6	1.8 ± 0.7	1.8 ± 0.5	0.90
Hopkins Symptom Checklist-25 ≥ 1.75, N [%]	37 ± 47.4	6 [46.2]	29 [47.5]	0.93
Physical performance tests				
Fitness Index [cardiovascular]	66.6 ± 28.5	82.9 ± 16.2	65.0 ± 28.6	0.07
Back Performance Scale [0-15][b]	7.3 ± 3.5	4.9 ± 2.9	7.3 ± 3.3	0.01
Musculoskeletal fitness[a]				
Neck-shoulder flex [1-5]	2.2 ± 1.4	3.4 ± 1.8	2.0 ± 1.2	0.03
Static balance [1-5]	2.3 ± 1.3	2.7 ± 1.6	2.2 ± 1.2	1.19

Dynamic balance [1-5]	1.8 ± 1.1	1.8 ± 1.2	1.8 ± 1.1	0.88
Dynamic sit-ups [1-5]	1.7 ± 1.2	2.5 ± 1.4	1.6 ± 1.0	0.02
Modified push-ups [1-5]	1.1 ± 0.6	1.3 ± 0.7	1.1 ± 0.4	0.36

P-values reflect differences between those who believed [N=15] and those who did not believe they could return to work [N=69] examined by independent samples t-test or Mann-Whitney U-test

N = number, % = percent, [a] = high score indicates good function, [b] = low score indicates good function, P<0.05

Table 3. Odds Ratios for Not Believing in Return to Work

Total N=84; N=69 did not believe they would return to work

Variables	N	Age and gender adjusted OR [95% CI]	P-value
Age	84	1.10 [0.99 to 1.23]	0.08
Gender			
Females	55	1	
Males	29	3.07 [0.74 to 12.77]	0.12
BMI			
≤ 25	26	1	
> 25	41	6.11 [1.39 to 26.83]	0.02
BPS			
≤ 7	34	1	
> 7	33	13.64 [1.59-117.38]	0.02
Neck-shoulder flexibility			
≥ 2.2	26	1	
< 2.2	41	7.40 [1.55 to 35.22]	0.01
Dynamic sit-ups			
≥ 1.7	25	1	
< 1.7	42	4.86 [1.14 to 20.77]	0.03
Norwegian Functional Scale			
≤ 2	40	1	
> 2	36	7.01 [1.60 to 30.75]	0.01
FABQ-PA			
< 15	39	1	
≥ 15	37	6.27 [1.15 to 34.17]	0.03

Analyzed by logistic regression analysis, adjusted for age and gender, each explanatory variable analyzed separately.

OR = odds ration, CI = confidence interval, BMI = body mass index, BPS = Back Performance Scale, FABQ-PA = Fear Avoidance Beliefs Questionnaire – Physical Activity, $P<0.05$

Fig. 1: Flow chart of participants and non-attendees