

Return to gainful work by patients suffering from lumbar discopathy after rehabilitation within the framework of an insurance prevention programme

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Abstract

In this paper the analysis of a return to gainful work by 76 consecutive patients suffering from back pain and neuralgia due to the lumbar discopathy after rehabilitation within the framework of the ZUS (Polish Social Insurance Institution) Prevention Programme has been presented. The following parameters, which might have influenced the return to work, age, sex, treatment, employment, education and the length of incapacity for work have been analysed. The relevancy of the opinion given by doctors at the rehabilitation centre on the patients' capacity for work in relation to their future return to work has been analysed. The utility of measuring activities of daily living (ADL), level of depression and quality of life (HRQoL) for predicting return to work has been estimated. The Functional Index »Repty«, Beck's Depression Scale and a Simple Life Satisfaction Scale were used as additional outcome measures.

Key words: back pain, capacity, discopathy, gainful work, invalidity, prevention, rehabilitation

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Introduction

Low back pain (LBP) is one of the most frequent reasons for seeing a primary care physician and the second most frequent reason for people to stay away from work. The costs of treatment and incapacity for work due to LBP are very high [4]. This makes a considerable health-care challenge for industrial countries. In Poland since 1995 the preventive programme within the framework of the ZUS (Polish Social Insurance Institution) enables rehabilitation, which aims to prevent incapacity for work. Persons with LBP are the most numerous group among these patients. Physicians working in rehabilitation centres are asked to give a preliminary opinion on the patients' capacity for gainful work. The impact of LBP is strongly related to the patient's functional status. The aim of this prospective clinical study was to estimate the validity of the chosen tools measuring activities of daily living (ADL), level of depression and quality of life (HRQoL), and answer the question – how relevant are doctors in predicting patients' return to gainful work?

Patients and methods

The study group comprised 76 consecutive patients with LBP – 34 females and 42 males – seen within the framework of the ZUS Prevention Programme. The mean age was 41

years with a range from 23 to 57 years (Table 1). The average period of rehabilitation was 24 days with a range of 15 to 29 days. The comprehensive rehabilitation programme was realized according to the ZUS' recommendations [7, 14, 19]. The study group consisted of patients with disc protrusion confirmed during surgical treatment or confirmed by means of neuroradiological imaging – CT, MRI or radiculography. Persons without intraoperative or neuro-radiological confirmation have been excluded. Thirteen patients underwent surgical procedures, 52 a CT scan, 10 a MRI scan and one radiculography. According to the classification of the Quebec Task Force the patients belonged to categories 6 (pressure on neural radix confirmed by neuroimagination) and 8 (till 6 month after surgery), following the classification according *Bernard* and *Kirkaldy-Willis* they were in group A (protrusion of the nucleus pulposus) [15]. In the study group there were 15 employers and 61 workers. Forty six patients were temporarily unable to work for less than 180 days and 30 patients were incapable for more than 180 days. As for education, 4 individuals had university qualifications, 21 had attained high school standard and 40 basic technical education whilst 11 had no qualifications. Three months after rehabilitation further decisions regarding patient employability were made by the physician. The relevancy of the opinion given by doctors at the rehabilitation centre on the patients' capacity for work in relation to

their future return to the gainful work has been analysed. In each patient independence in activities of daily living (ADL), depression and quality of life were assessed. For evaluation of ADL the Functional Index ›REPTY‹, which is a modification of FIM, was used [9, 12].

The levels of independence and dependence have been determined as following: score 6–7 points = complete independence, 4–5,9 points = partial independence, 2,1–3,9 points = partial dependence, 1–2 points = complete dependence.

For evaluation of mood the Beck's Depression Scale has been used [1]. According to the author the following levels of depression have been determined: 0 to 10 points = no depression, 11 to 22 points = mild depression, 23 points and more = severe depression.

For evaluation of quality of life our own simple Life Satisfaction Scale has been used. It consists of 10 questions concerning family life, gainful job, financial status, housing, general feeling, general estimation of health, recreation, social life, religion, general satisfaction.

Age	Sex	
	Females	Males
23–57	34	42
mean: 41 years		

Tab. 1: Age and gender (n = 76)

Results

Results are shown in tables 2–13. Among 76 patients who participated in the rehabilitation programme, 45 persons returned to work (59%). In this study group 22 (65%) women returned to work. Twenty three men (55%) returned to a gainful job (Table 2). Fourteen patients above 45 years returned to work (67%). Thirty one patients under 45 years returned to work (56%) (Table 3). Among 13 patients who had surgery 9 (69%) returned to work and four (31%) did not. Among 63 patients treated with a behavioural regime, 37 went back to work (59%) (Table 4). As for functional status, more completely independent patients went back to work (27 = 69%) than did not (12 = 31%), but this result was not statistically significant ($p=0,114$) (Table 5). Among 44 patients without depression 23 (52%) persons returned to work, 21 (48%) persons did not. Among 18 patients with slight depression 14 (78%) persons went back to work. Among 14 persons with considerable depression eight persons (57%) returned to work (Table 6). As for life satisfaction, among nine persons who were ›very satisfied‹ 7 (78%) persons went back to work. In the group of 26 ›satisfied‹ patients 16 (62%) returned to work. Among 28 patients who were not able to define their life satisfaction (group ›undecided‹) 16 persons (57%) returned to work. Among 12 patients who declared that they were ›unsatisfied‹ five (42%) persons returned to a job (Table 7). Among 21 persons with a high education 14 (67%) persons

Sex	Return to job	Retired	Total
Females	22 (65%)	12 (35%)	34
Males	23 (55%)	19 (45%)	42
Total	45 (59%)	31 (41%)	76

Tab. 2: Return to job and sex ($p=0.521$)

Age	Return to job	Retired	Total
More than 45 years	14 (67%)	7 (33%)	21
Less than 45 years	31 (56%)	24 (44%)	55

Tab. 3: Return to job and age ($p=0.578$)

Treatment	Return to job	Retired	Total
Surgery	9 (69%)	4 (31%)	13
Behavioral	37 (59%)	26 (41%)	63

Tab. 4: Surgery or behavioral treatment ($p=0.694$)

FIR	Return to job	Retired	Total
Completely independent	27 (69%)	12 (31%)	39
Partially independent	18 (50%)	18 (50%)	36
Partially dependent	0	1 (100%)	1

Tab. 5: Return to job and ADL ($p=0.114$)

Depression	Return to job	Retired	Total
No depression	23 (52%)	21 (48%)	44
Slight	14 (78%)	4 (22%)	18
Considerable	8 (57%)	6 (43%)	14

Tab. 6: Return to job and depression (see: discussion)

Life satisfaction	Return to job	Retired	Total
Very satisfied	7 (78%)	2 (22%)	9
Satisfied	16 (62%)	10 (38%)	26
Undecided	16 (57%)	12 (43%)	28
Unsatisfied	5 (42%)	7 (58%)	12

Tab. 7: Life satisfaction and return to job ($p=0.461$)

Education	Return to job	Retired	Total
University	2 (50%)	2 (50%)	4
High school	14 (67%)	7 (33%)	21
Basic technical	22 (55%)	18 (45%)	40
Without qualifications	7 (64%)	4 (36%)	11

Tab. 8: Education and return to job ($p=0.987$)

Employment	Return to job	Retired	Total
Employers	7 (47%)	8 (53%)	15
Workers	38 (62%)	23 (38%)	61

Tab. 9: Employment ($p=0.413$)

Kind of employment	Return to job	Retired	Total
Worker	29 (62%)	18 (38%)	47
Manual	9 (64%)	5 (36%)	14

Tab. 10: Kind of employment (p=0.889)

Kind of firm	Return to job	Retired	Total
Private	17 (47%)	19 (53%)	36
Public	28 (70%)	12 (30%)	40

Tab. 11: Kind of firm (p=0.063)

Time of incapacity	Return to job	Retired	Total
Less than 180 days	25 (54%)	21 (46%)	46
More than 180 days	20 (67%)	10 (33%)	30

Tab. 12: Time of temporary incapacity (p=0.407)

Opinion	Return to job	Retired	Total
Capable	28 (65%)	15 (35%)	43
Capable with limits	15 (52%)	14 (48%)	29
Incapable		2 (100%)	2
No opinion	2 (100%)		2

Tab. 13: The relevancy of the opinion given by doctors (p=0.127)

returned to a job among patients without education 7 persons (64%) and with basic technical education 22 persons (55%) (Table 8). Seven employers returned to work (47%) and eight employers still did not work (53%). Among 61 workers 38 (62%) returned to work and 23 workers did not (38%) (Table 9). Among 47 physical workers 29 persons returned to work (62%). Among 14 manual workers nine persons returned to work (64%) (Table 10). Among 36 persons who were working in a private firm 17 persons returned to work (47%). Among 40 persons who were working in a public firm 28 persons returned to work (70%) (Table 11). Among 46 persons who were temporarily unable to work for less than 6 months, 25 persons returned to work (54%). Among 30 patients who were unable to work for more than six months, 20 (67%) persons went back to work (Table 12).

When discharged from the rehabilitation centre the patients had the doctor's opinion on their future capacity for work. We examined the relationship between the doctor's opinion and future work return. Forty three persons had the opinion 'capable of gainful work'. Among them 28 persons (65%) went back to work. Among 29 persons with the opinion 'capable of gainful work with limitation', 15 persons (52%) returned to work (Table 13).

Discussion

From the study group presented, the majority went back to work (59%). Completely independent patients more often returned to work than those partially independent (p=0.114). Depression, as measured by the Beck's Scale,

was not useful in predicting capacity to work. More 'very satisfied' patients returned to work than 'satisfied' ones (p=0.461). More workers employed in public firms returned to gainful employment than those engaged in private firms – this correlation was close to the statistical significance (p=0.063). The preliminary opinions given by doctors in rehabilitation centres on future capacity to work three months later was reasonably accurate.

In the literature there are many reports on LBP classification and evaluation [6, 16]. Two classifications, the Quebec Task Force and Bernard & Kirkaldy-Willis, seem to be especially useful in rehabilitation [15]. There are many scoring scales that evaluate activities of daily living (ADL) – the best known and commonly used are the Barthel Index and the Functional Independence Measure [9, 12, 14].

The Functional Index 'REPTY' is a modification of the FIM [12]. The best known rating scales for assessing depression are Beck's and Hamilton's [1, 8]. According to psychologists and psychiatrists the first scale (self-report) is more valid in young individuals while the second one (completed by the physician or psychologist) is more useful in older patients. Measuring quality of life is very important in LBP [3, 5, 6, 10, 11, 17]. The best known QoL measure is the Sickness Impact Profile (SIP) [2]. We recommend the specific questionnaire designed for LBP patients by Roland-Morris, which consists of 24 questions [20].

The capacity for gainful work after rehabilitation in our study (59%) was similar to Swedish trials (60%) [17]. Usually men returned to work more often than women [6, 17]. As for surgery or behavioural treatment – more surgically treated patients get back to work than behaviourally treated ones although this is not the case in all studies [10].

Education has an influence on capacity to work, the higher the education of the patient, the more often he returns to work [10].

In our study no correlation between length of temporary incapacity to work and future decisions on capacity for gainful work has been found (Table 12). From the literature we know that patients longer out of work rarely return to work. In many reports the borderline of six months of unemployment has been defined as a critical point. In *Lancourt and Kettelhut's* report 92% of those patients who had been out of work for longer than six months were retired [11]. *Sandstrom* stated that patients who were unemployed for longer than 6 months were more out of work after four years of observation [17].

In our study the influence of the physician's prediction on future capacity for gainful work was high. This is the same conclusion as in other reports. Analysing the group of 232 patients six months after the end of treatment, physicians from Vermont Clinic predicted accurately future work in 83% patients. A study in the Texas Clinic reported 100% accuracy in predicting return to work. In a Swedish study where 30 patients were predicted as being 'capable of work', 23 of them (77%) went back to work while eight persons were predicted as 'unable to work' and all of them did not return [17].

The physician's opinions were approximate to the patients' self-opinions [11]. The evaluation of self-dependence in activities of daily living is most useful in predicting return to work. *Von Korff* confirmed that limitation in daily living activities is a predictable factor of incapacity to work [6]. *Milhous* also stated that low level of ability to do daily activities makes gainful work impossible [6].

Conclusions

1. Fifty nine percent of the patients observed returned to gainful work.
2. The assessment of ADL was useful in predicting the capacity for work.
3. In this study Beck's Depression Scale was not useful in predicting the patient's capacity to return to work.
4. The opinions given by doctors at the rehabilitation centres on the patients' capacity for work was accurate in 59% of cases.

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