THE IMPACT OF RECOVERY PROCESS ON LOW BACK PAIN

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Abstract: Background. In physical therapy, the low back pain is a common occurrence, which is why there were proposed over time, numerous scales with which to assess the pain phenomenon that would help both diagnose the initial condition, as well as predict its evolution and the effectiveness of the rehabilitation program.

Method

The study was conducted on the treatment facilities at Hotel Padiş - Felix in July 2015 with the participation of 16 patients of both genders and different age groups, the main criterion for inclusion in the study group being diagnosed back pain - subacute phase with absent or moderate radiculopathy

The patients were evaluated via the Schober Test and two specific methods: VAS for pain assessment and the Roland-Morris questionnaire, assessing perceived disability due to low back pain.

Result

Tracing the evolution of the VAS pain scale reveals that following the consistent application of the kinetic program, there was a significant decrease in pain in 13 patients, representing 81.25%, without regard to gender or age.

In assessing perceived disability (via the Roland-Morris questionnaire), all patients reported improvement of loco-regional and general conditions, although differences in scoring are more than three units in only three cases, representing 18.75%.

Conclusions

1. Studying the perceived disability scores, we find relatively modest decreases in indices, with values of 4 and over being recorded in only 4 cases (25%) and in 1 case the index value reaching 3 – i.e. approaching normality.

2. The degree of disability, which depends on the possibility of accomplishing motor acts specific to daily activities. has a smaller decrease than the pain indices themselves, but is observed among all patients.

Keywords: low back pain, VAS scale, Roland-Morris Disability Questionnaire

Background

In physical therapy, the low back pain is a common occurrence, which is why there were proposed over time, numerous scales with which to assess the pain phenomenon that would help both diagnose the initial condition, as well as predict its evolution and the effectiveness of the rehabilitation program.

Back pain can be found in people of any age, from children to the elderly. 70 -80% of adults [1] report at least one episode of back pain during their lifetime, most being treated at home, through self-medication and rest.

Its etiology varies [1], from disc causes, to inflammation or neoplastic processes. Most often, low back pain has musculoskeletal causes [2] and recovers through kinetic treatment or medical spa means.

The low back pain's evolution can take many clinical forms: acute (onset by a sudden movement or without an identifiable cause) lasting up to six weeks, subacute (persistent six to twelve weeks) or chronic (lasting over twelve weeks) [3].

Essential in recovering a painful lumbar syndrome is evaluating patients and tracking their progress throughout the kinetic treatment. We recommend that the evaluation be conducted both before applying medical treatment, to establish initial parameters and treatment goals during its deployment to assess the effectiveness of treatment, as well as at its end, to quantify the results.

The most common methods to functionally assess low back pain, assessments that are part of the arsenal of physical therapists testing joint and muscle manual. These tests are preferred because they directly assess functional gains in patients during and after kinetic treatment [4]. To study we used the spinal mobility assessment by the Schober Test for flexion and extension movements for spine [5]. According to this test, the distance between a base point at the middle of the sacrum and a point located 10 centimeters above increases up to 15 cm, after serving a maximum flexion of the trunk. The increase in the distance between the two points by less than 4 centimeters indicates a limitaton in the mobility of the lumbar spine. Similarly, one can appreciate the mobility of the spine extension, the distance reducing, normally, by less than 2 cm.

Another simple and effective evaluation method is the use of the VAS (visual analogue scale) for pain assessment - levied by a

questionnaire that asks the patient to assess their disconfort level on a scale from 1 (minimal pain) to 10 (maximum pain) [6]. Values above 7 are considered severe pain and require painkiller medication [7].

Throughout the study, the Roland-Morris questionnaire was also used to assess the level of disability experienced by patients. The questionnaire contains a total of 24 items and is used to evaluate patients with low back pain, assessing the degree in which a potentially painful syndrome is affecting the patient's mobility and quality of life. The questions are directly related to current physical activity and movement limitations imposed by pain [8]. Affirmative answers score 1 point, while negative answers score 0. The higher the total score, the more severe the disability associated with a painful phenomenon is. A score of 0 (answered NO to all items of the questionnaire) indicates the absence of disability and a score of 24 (answer YES to all items) indicates that there are severe limitations of movement and activity.

Method

The study was conducted on the treatment facilities at Hotel Padiş - Felix in July 2015 with the participation of 16 patients of both genders and different age groups, the main criterion for inclusion in the study group being diagnosed back pain - subacute phase with absent or moderate radiculopathy

The patients were evaluated via the Schober Test and two specific methods: VAS for pain assessment and the Roland-Morris questionnaire, assessing perceived disability due to low back pain.

After the initial evaluation, patients conducted parallel kinetic treatment based on the Williams programs, neuro-muscular and proprioceptive facilitation techniques (Kabat methods and hold-relax) [9] and analgesic and muscle relaxant physiotherapy [10], as well as hydro-kinetic programs and received daily sessions of regional decontracturant massage.

The recovery program lasted two weeks for each patient.

Results

The study involved 16 patients, the inclusion criteria being the diagnosis of subacute low back pain with absent or moderate radiculopathy and the age between 18 and 60 years.

The patient group was composed of people of both genders, its structure is: 40% men (7) and 60% women (9) (Fig. 1).

Patients from rural areas - 4 people (25%) and urban - 12 people (75%) (Fig. 2).

Patient age ranged from 25 to 60 years, the distribution group are:

- 25-30 years → 2: 10%;
- 31-40 years → 8; 50%;
- 41-50 → 4; 25%;
- 51-60 years → 2, 10% (Figure 3).

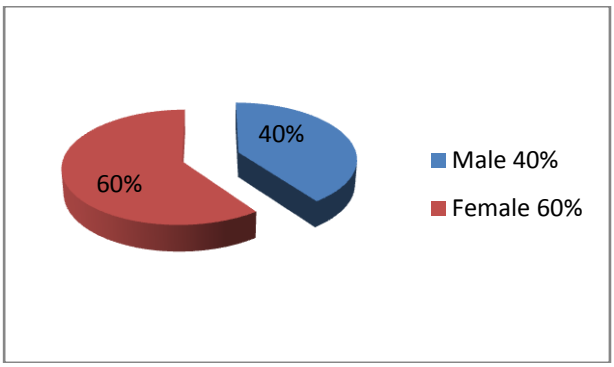

Fig. 1. Group structure by gender

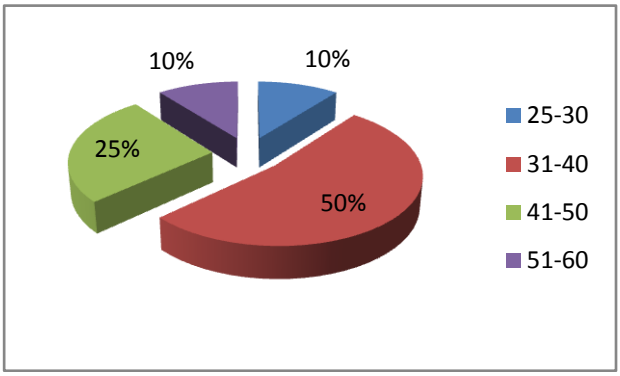

Fig.2. Group structure by area of origin or living

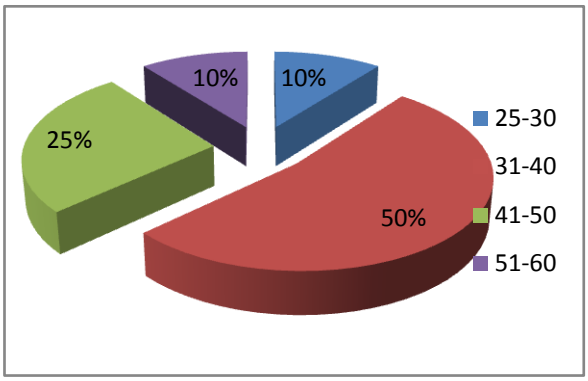

Fig. 3. Group structure after the age of patients

Regarding the evaluation of lumbar mobility in flexion and extension via the Schober test, it can be seen that in all patients, the index has changed after the recovery treatment (Table 1). Values are expressed in centimeters.

Table no. 1. Centralization of data in respect to sheet joint mobility (cm)

No.	FLEXION			EXTENSION		
	Initial	Final	Net Gain	Initial	Final	Net Gain
1.	11,5	13,5	2	9	7,5	1,5
2.	12	14	2	9	8,5	0,5
3.	11,5	12,5	1	9	7	2
4.	12	15	3	9	8	1
5.	12	13	1	9	8	1
6.	12,5	13,5	1	9	8	1
7.	11	13	2	9,5	9	0,5
8.	12,5	13,5	1	9,5	8,5	1
9.	11	12	1	9.5	7,5	2
10.	12	13	1	9	8	1
11.	12	14	2	9	7,5	1,5
12.	11,5	13,5	2	9	7	2
13.	13	15	2	9	7	2
14.	11	12	1	8,5	7,5	1
15.	12	14	2	9	8	1
16.	12,5	14,5	2	8,5	7,5	1

Tracing the evolution of the VAS pain scale reveals that following the consistent application of the kinetic program, there was a significant decrease in pain in 13 patients, representing 81.25%, without regard to gender or age.

In assessing perceived disability (via the Roland-Morris questionnaire), all patients reported improvement of loco-regional and general conditions, although differences in scoring are more than three units in only three cases, representing 18.75%.
Tabulation assess patients through two questionnaires is shown in Table no. 2.

Table no. 2. Evaluation by perceived perception of pain and mobility

No.	VAS Score			Roland-Morris Score		
	Initial	Final	Net Gain	Initial	Final	Net Gain
1.	5	5	0	12	9	3
2.	7	4	3	10	8	2
3.	6	6	0	10	9	1
4.	5	3	2	9	6	3
5.	5	4	1	8	6	2
6.	5	2	3	6	3	3
7.	5	4	1	9	5	4
8.	7	2	5	12	6	6
9.	7	5	2	10	8	2
10.	7	4	3	10	7	3
11.	8	5	3	11	6	5
12.	7	4	3	10	7	3
13.	6	6	0	10	7	3
14.	8	5	3	13	10	3
15.	5	4	1	11	9	3
16.	5	2	3	13	9	4
Average	6	4	2	10	7	3

Discussion

Analyzing the group of patients' parameters, we observed:
- In the studied group, low back pain occurs with higher frequency in female patients (60%);
- The most affected age group is the 31-40 years, followed by the 41-50 years group;
- Environment and lifestyle certainly influence the phenomenon, a painful lumbar spine condition will have a higher incidence in the urban population;
- Limited mobility was observed in all patients, both in flexion and in extension, their condition is improving after treatment, but none has reached the normal values of the Schober test;
- Analysis of VAS scores indicate less pain in 13 cases (81.25%) and 3 cases are being described as having the same intensity;
- From studying the evolution of perceived disability scores, we observed a decrease in median scores (from 6-13 to 3-10).

Conclusions

1. Low back pain is more common in females.
2. Pain greatly influences the mobility and the perceived disability, all study subjects reporting restricted mobility due to the painful musculat contractions.
3. The subjective component of pain is responsible for resistance to treatment - which negatively impacts the effectiveness of the recovery process.
4. Studying the perceived disability scores, we find relatively modest decreases in indices, with values of 4 and over being recorded in only 4 cases (25%) and in 1 case the index value reaching 3 – i.e. approaching normality.
5. The degree of disability, which depends on the possibility of accomplishing motor acts specific to daily activities, has a smaller decrease than the pain indices themselves, but is observed among all patients.

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