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OUTCOME OF PHYSICAL THERAPY IN LOW BACK PAIN

Introduction

Back pain in the lumbar part are very common problem in the whole world's population, approximately 70-80% of them experience at least once in their life such a pain. The back pain could be caused due to degenerative processes of spinal cord, different traumas, sitting positions (forced positions), congenital malformations. The risk factors for causing and worsening of BP are: age, life style, smoking and physical state. We should add that the weight gain is the risk factor of back pain (Kraeme 2009), and very often we encounter literature that a very often cause is weight gain or obesity (Wong 2007, Szpalski 2010). The most affected part of the spinal cord by the OB is the lumbar part. Physical exercise can be helpful for the patients with chronically low back pain to return to work and to normal activities. Application of regular exercise 3-4 times a week is the best solution for reducing the back pain. The aim of physical exercise is alleviating the pain and deformities, preserving and education for better posture, return of full function and prevention of disabilities (Clare 2004).

The main purpose of this paper is to define whether obesity affects the duration of treatment with physical therapy according to McKenzie techniques.

Objectives

The aim of this study is to define: is the obesity one of the factors which prolongs the healing time in rehabilitation of physical therapy?

Materials and methods

The research was carried out at the Physiatrist Service at Medicine of Occupation Institute (MOI) covering one year period during 2013. The total number of the patients that were subject to research was 101, who were adults within the Kosovo Energy Corporation (KEK). The research was long-term and retrospective. The material received was protocolled. The subjective data were taken: age, gender, working experience, clinical signs and occupation. The objective data, such as specific tests and diagnostics were performed by physiatrist, while the radiography was examined by the radiologist. From the records of the systematic visits the weight and height were taken. Out of these diseased, 32 of them had normal IBM, 38 of them were overweight and 31 obese. In order to easier review the statistical data, the groups were divided into not-obese and obese. In non-obese group were included the ones with IBM smaller than 29.9, in obese group were included diseased whose IBM was higher than 30. In our case 70 of them belonged to the first group (non-obese) and 31 to the second group

(obese). Their average age was 50 years old, while the average working experience was 24 years. The following were criteria for including them in the research: confirmed diagnostics of illness as final diagnose Sy. Lumbalae, and to be an employee of KEK. The diseased were treated with physical therapy in MOI. All 101 patients underwent physical therapy. Physical exercises were applied according to McKenzie protocol, with standardized protocol and adjusted for each case. In general, according to McKenzie standard protocol adjusted individually according to each case, physical exercises were focused on static and dynamic exercises for strengthening the muscles of the lumbar region, abdominal region, pelvis muscles, spinal cord muscles and in general of extremities, especially lower ones.

Ethical clearance

The study was approved by the Regional Ethical Board of the Institute of Occupational Medicine, Kosovo. Written informed consent of each participant was obtained along with the approval of the Kosovo Energy Corporation administration.

Statistical analysis

Data was presented using tables and graphs. Data processing was done with Office 2007 Excel. From statistical parameters the following were calculated: the index structure, the arithmetic mean, standard deviation, and minimum/maximum values. For parametric data the T-test was used. Verification of tests for confidence level of 99% is ($p < 0:01$).

Results

101 patients with low back pain were included in the research, wherein 70 or 69.3% according to the of body mass index were classified as non-obese (that according to body mass index were normal and overweight) and 31 or 30.7% obese. Non-obese patients were included in the group 1, while obese ones in the group 2 (Table 1).

Table 1. *Statistical data of according to age parameters according to groups*

Data	Group 1 (Non-obese)	Group 2 (Obese)	Total
N	70	31	101
Average	49.11	50.97	49.68
Dev. Standard	8.67	7.28	8.28
Min	26	34	26
Max	64	60	64
T-test, P-value	t=1.042, P=0.299		

The average age of the respondents was 49.68 years (SD ±8.28) from 26 - 64 years of age. The average age of non-obese patients was 49.11 years (SD ±8.67), whereas for obese group it was 50.97 years (SD ±7.28 years) from 34 – 60. By t-test

we didn't find high statistical significance between average age according to groups (Table 2., picture 1).

Table 2. *The number of physical therapy sessions by groups*

Physical therapy (sessions)	Group 1 (not obese)		Group 2 (Obese)		Total	
	N	%	N	%	N	%
<10	25	35.7	6	19.4	31	30.7
10+	45	64.3	25	80.6	70	69.3
Total	**70**	**100.0**	**31**	**100.0**	**101**	**100.0**

More than half of the patients involved in research (70 or 69.3%) had 10 or more sessions of physical therapy out of which with higher structure Obese Group compared with the Not Obese Group (80.6% vs. 64.3%), (Table 3).

Tabela 3. *The average number of physical therapies according to groups*

	Group 1 (not obese)	Group 2 (Obese)	Total
N	70	31	101
Average	9.39	12.42	10.32
Standard Dev.	4.81	5.57	5.22
Min	2	5	2
Max	30	25	30
T-test, P-value	t=2.78, *P*=0.0065		

The average number of physical therapy sessions of the research patients was 10.32 (SD ± 5.22). The smaller number of sessions applied to the patients involved in the research was two sessions and 30 sessions the largest.

The average number of physical therapy sessions of the research patients of Group 1 (not obese) was 9.39 sessions (SD ± 4.81). The smaller number of sessions applied to the patients of this group was two sessions and the largest 30 sessions.

Discussion

The physical exercises might be of great help for the patients who suffer chronic back pain in order to return to normal daily activities and work (Mauris 2000). Regular exercises 3-4 times a week is the best solution for the reduction of the back pain level (Kwon 2006). The factors that contribute to the pain healing prolongation are: age, location of pain and socio-economic factors as well as psychological (Anderson 1999). (Mangvani 2010) presented in his work that obesity didn't present any important factor in elimination of pain by physical therapy. On contrary, we got high statistical significance during the application of physical therapy according to the groups (t-test=2.78, P=0.0065, P<0.01) wherein the obese group had higher average of physical therapies undergone in comparison with non-obese group. So, the obese group has

undergone more physical therapy sessions in comparison with non-obese group. Similarly to our research, (Miranda 2002) came to a conclusion that weight loss influences the treatment of the patients with osteo-muscular problems. There is a huge unclearness in the theory of obesity influence on low back pain. The loss of muscle mass of the trunk and low extremity muscles and central OB might be the risk factors for the low back pain (Al-Shamari 2003).

Conclusions

The treatment with physical therapy according to McKenzie is longer at obese patients with low back pain for many reasons, especially because of the weight as the full amplitude of movement is not possible, in comparison with the ones whose IBM is normal or who are overweight.

The obesity and age do not have direct impact on the low back pain, but it affects the duration of healing process. The weight loss helps the treatment of the diseased with osteo-muscular problems.

Conflict of interest
None declared

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OUTCOME OF PHYSICAL THERAPY IN LOW BACK PAIN

__Introduction:__ Physical exercise can be helpful for patients with chronic low back pain to return to work and to normal activities. Application of regular exercise 3-4 a week is the best solution for reducing the pain of back. Low back pain pose significant problem in clinics and public health. It presents one of the main problems with adults, since 70-80% of adults face this problem at least once in their life. The aims of this study is to define: is the obesity one of factors which prolong the healing time in rehabilitation of physical therapy? __Materials and Methodology:__ This study has been conducted in Physiatry Service of the Institution of Occupational Medicine, in a one year timeframe. The total was 101 patients that were employed with Kosovo Energy Corporation (KEK). The study was long-term and retrospective, whereas the material was gathered particularly. The patients were treated with physical therapy in IMP , all of 101 patients have applied physical therapy. __Results__ – from 101 sick individuals from the research, based on the body weight index, 69.3% are classified as non-obese and 30.7% obese.

There are no major statistical differences found in comparison between the groups in relation to age, job position, pain localization, sick leave and radiography. With the T-Test we have found a difference with high statistical significance between the average number of applied physical therapy sessions in relation to examined groups (T-Test=2.78, P=0.0065, so, P<0.01). __Conclusion:__ Obesity and age have no direct influence in the back pain, but affects in prolonging healing. Loss of weight helps in treating with physical therapy the sick suffering from ostemuscular problems, also psycho-social factors affect in prolonging the healing process.

__Key words:__ Low back, pain, physical therapy.