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The Assessment of Sanatorium Treatment Impact on the Results Obtained in the Oswestry Questionnaire in the Areas of Sitting, Standing and Sleeping

Ocena wpływu leczenia sanatoryjnego na wyniki uzyskane w kwestionariuszu Oswestry w zakresie siedzenia, stania oraz spania

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Abstract

Introduction. Back pain in the lumbar spine has become the most common disorder of the 21st century. Nearly 80% of population aged over 40 have already experienced a painful episode in their spine.
Aim. The aim of the study is to assess to what extent the rehabilitation influences the occurrence of pain while sitting, standing and sleeping in patients with lumbar spine pain syndromes.
Material and Methods. The research was conducted among 300 (100%) respondents aged 35–65. The studied population included 111 women, i.e. 37% and 189 men — 63%. Most people declared secondary education (40%), which was followed by vocational education (29%) and then higher education (24%). Patients were treated for lumbar spine pain syndromes. The research was carried out at the Sanatorium "Uzdrowisko Wieniec" Sp. z o.o. in Wieniec Zdrój.
Results. After the end of the stay, it was noticed that the number of people who could sit in the chair any number of hours significantly increased ($p \leq 0.05$) from 7% to 29%, while the number of respondents who could stand any number of hours also increased ($p \leq 0.05$) from 4% to 26%. On the day of discharge from the sanatorium, the number of people declaring that pain does not affect sleep also significantly increased ($p \leq 0.05$) from 96 out of 167 of those surveyed.
Conclusions. Taking into account the intensity of pain, it can be concluded that after the sanatorium treatment the number of responses related to the reduction of pain symptoms increased. Significantly increased the number of those who can sit, stand and sleep without pain in the lumbar region. **(JNNN 2018;7(2):70–74)**
Key Words: Oswestry Disability Index questionnaire, sanatorium treatment, back pain

Streszczenie

Wstęp. Bóle kręgosłupa odcinka lędźwiowego stały się najczęstszymi schorzeniami XXI w. Blisko 80% osób po 40. roku życia doświadczyło już w swoim życiu epizodu bólowego w tym odcinku kręgosłupa.
Cel. Celem pracy jest ocena, w jakim stopniu rehabilitacja wpływa na występujący ból podczas siedzenia, stania oraz spania u pacjentów z zespołami bólowymi odcinka lędźwiowego kręgosłupa.
Materiał i metody. Badania zostały przeprowadzone wśród 300 (100%) respondentów w wieku od 35 do 65 lat. Badaną populację stanowiło 111 kobiet tj. 37% oraz 189 mężczyzn — 63%. Najwięcej osób deklarowało wykształcenie średnie (40%), następnie zawodowe (29%), a potem wyższe (24%). Pacjenci byli leczeni z powodu zespołów bólowych odcinka lędźwiowego kręgosłupa. Badania przeprowadzono w Sanatorium „Uzdrowisko Wieniec" Sp. z o.o. w Wieńcu Zdroju.
Wyniki. Po zakończonym turnusie zauważono, że liczba osób mogących siedzieć na krześle dowolną ilość godzin istotnie wzrosła ($p \leq 0{,}05$) z 7% do 29%, natomiast liczba badanych mogących stać dowolną ilość godzin również

wzrosła (p≤0,05) z 4% do 26%. W dniu wypisu z sanatorium liczba osób deklarujących, że ból nie ma wpływu na sen także istotnie wzrosła (p≤0,05) z 96 na 167 badanych.
Wnioski. Biorąc pod uwagę intensywność bólu można wywnioskować, że po leczeniu sanatoryjnym wzrosła liczba odpowiedzi odnosząca się do zmniejszenia nasilenia dolegliwości bólowych. Istotnie wzrosła liczba osób mogących siedzieć, stać oraz spać bez występowania dolegliwości bólowych w odcinku lędźwiowym. **(PNN 2018;7(2):70–74)**
Słowa kluczowe: kwestionariusz Oswestry, leczenie sanatoryjne, ból kręgosłupa

Introduction

The definition of pain cannot be unambiguously determined. It is an unpleasant, subjective sensory and emotional experience. It is defined in the somatic, but also psychological aspect. It also plays an important protective role in the body, because it informs us about the existing threat of injury or illness [1–4]. It is also important that the pain is multidimensional and that its treatment should be characterized by multidisciplinary character. Effective therapy must be based on a holistic approach to pain, i.e. include all its components such as physiology, anatomy and psychology [5]. Pain syndromes of the lumbar spine are one of the most frequent reasons for visits to the primary care doctor [6]. Spinal pains are among the main complaints occurring within the musculoskeletal system [7]. It is estimated that nearly 40–60% of patients in the orthopedic clinic complain of the occurrence of back pain [8]. They constitute a set of symptoms with different pathogenesis and severity. One of the most common causes of lumbar region ailment is the damage to the intervertebral disc [9]. Nearly 95% of all discopathy concerns lumbar vertebrae [10]. It is also important that back pains are recurrent. Therefore, the basic goals of treatment include the preservation of the best physical fitness and mobility of the spine and the reduction of inflammation. The achieved goals usually include: individualized education, rehabilitation and pharmacotherapy, and in many cases also surgical treatment [11].

The aim of the study is to assess to what extent the rehabilitation influences the occurring pain while sitting, standing and sleeping in patients with lumbar spine pain syndromes.

Material and Methods

The research was conducted among 300 (100%) respondents aged 35–65. The studied population included 111 women, i.e. 37% and 189 men — 63%. Most people declared secondary education (40%), which was followed by vocational education (29%) and then higher education (24%). And the smallest number of respondents had primary education (7%). The majority of respondents, i.e. 73%, lived in the city. Nearly 49% of patients perform physical work, 37% mental work, and the remaining 14% do not work. Patients were treated for lumbar spine pain syndromes. The research was carried out at the Sanatorium "Uzdrowisko Wieniec" Sp. z o.o. in Wieniec Zdrój.

The research used the diagnostic survey method, and the research tool was the Oswestry Disability Index questionnaire. The research was carried out at two stages (on the day of admission and discharge from the sanatorium). Oswestry Questionnaire (ODI) is a 10-degree scale that allows assessment of disability, which is caused by pain in the lumbar spine. The presented work uses the results obtained while walking, sitting, standing, sleeping. The surveyor provided answers to the questions by outlining the responses indicating their condition in a score ranging from 0 to 5. The results were summed up and converted into percentage values.

The research was carried out after obtaining the consent of the Bioethics Committee of the Kujawsko-Pomorska Regional Medical Chamber in Toruń and the Medical Director of the Sanatorium in Wieniec Zdrój.

Results

Before starting sanatorium treatment of 26 people, 7% had declared that they could sit on the chair any amount of time. 50 people, 18% could sit for any length of time, but only in their favorite chair. 130 people, 44% due to pain could not sit for more than 1 hour, and 6 people, 2% because of pain could not stay in this position even for a moment. After the end of the stay, it was noticed that the number of people who could sit in the chair any number of hours significantly had increased (p≤0.05) from 7% to 29%. The percentage of people being able to sit any amount of time has also increased, but only in their favorite chair from 18% to 22% (Table 1).

Before starting rehabilitation in the study group of 300, 12 people, 4% declared that they can could stand any amount of time. 36 people, 12% could stand any amount of time, but it is accompanied by pain. 107 people, 36% because of pain could not stand for more than an hour, and 2% of the total number of respondents could not stand because of pain. After the completion of rehabilitation, the number of people declaring that they can could stand any number of hours significantly

Table 1. Sitting in patients before and after treatment

Sitting	Before treatment		After treatment	
	N	%	N	%
I can sit on the chair any amount of time (p=2,134e–010≤α=0,05)	26	7	88	29
I can sit any amount of time, but only in my favorite chair	50	18	67	22
Because of the pain I cannot sit for more than 1 hour	130	44	95	32
Because of the pain I cannot sit for more than 30 minutes	63	21	31	10
Because of the pain I cannot sit for more than 10 minutes	25	8	11	4
I can hardly sit because of the pain	6	2	8	3

Table 2. Standing in patients before and after treatment

Standing	Before treatment		After treatment	
	N	%	N	%
I can stand any amount of time without pain (p=2,245e–014≤α=0,05)	12	4	79	26
I can stand any amount of time but it is accompanied by pain	36	12	53	18
Because of the pain I cannot stand for more than an hour	107	36	92	31
I cannot stand more than 30 minutes because of pain	101	34	62	21
I cannot stand more than 10 minutes because of pain	37	12	9	3
I cannot stand because of pain	7	2	3	1

Table 3. Sleeping in patients before and after treatment

Sleeping	Before treatment		After treatment	
	N	%	N	%
I sleep well, the pain does not affect my sleep (p=1,594e–009≤α=0,05)	96	33	167	56
I can sleep only after using analgesics	81	27	82	27
After painkillers I can sleep up to 6 hours	40	13	12	4
After painkillers I can sleep up to 4 hours	39	13	15	5
After painkillers I can sleep up to 2 hours	22	7	9	3
I cannot sleep because of the pain	22	7	15	5

increased (p≤0.05) from 4% to 26%. The number of people who could stand any amount of time has also increased by 6 percentage points, but they are accompanied by pain (Table 2).

Among the patients examined during the first day of stay in the sanatorium, 96 people, 33% declared that they could sleep well and the pain did not affect their sleep. 81 people, 27% could sleep only after applying painkillers. 40 people, 13% after taking painkillers can could sleep 6 hours, whereas 22 people, 7% because of pain could not sleep at all. On the day of discharge from the sanatorium, the number of people declaring that pain did not affect sleep significantly increased (p≤0.05) from 96 out of 167 those surveyed. The percentage of respondents who could sleep up to 6 hours after using painkillers decreased significantly from 13% to 4%. The number of people who could fall asleep only after taking painkillers did not change (Table 3).

Discussion

The analysis of selected components of the Oswestry questionnaire in the case of comparison of patients' efficiency before and after treatment allows to assess the severity of pain in various situations. Taking into account the intensity of pain, it can be concluded that after sanatorium treatment the number of responses related to the reduction of pain symptoms increased. The number of people who could sit, stand and sleep without any pain in the lumbar region also significantly increased. After the end of the stay, it was noticed that the number of people who could sit in the chair any number of hours significantly increased (p≤0.05) from 7% to 29%, while the number of respondents who could stand any number of hours also increased (p≤0.05) from 4% to 26%. On the day of discharge from sanatorium, the number of people declaring that pain does not affect sleep also significantly increased (p≤0.05) from 96 out of 167 subjects respondents. The use of the Oswestry questionnaire to assess the degree of functional impairment in patients with lumbar spine pain syndrome can be found in the studies carried out by many authors. In a study conducted by Depa et al. [12], among 75 patients, the impact of rehabilitation on the occurrence of pain in the lumbar spine was also assessed. It was found that in 59% of respondents there was a reduction in the subjective intensity of pain. The improvement in efficiency was positively correlated with the change in the degree of impairment of functional activity determined using the Oswestry questionnaire. In the aspect of sitting after rehabilitation, an improvement was observed in 41% of respondents, whereas in the aspect of standing in

43% of respondents. In turn, in a study conducted by Klimaszewska et al. [13], among 156 randomly selected people with lumbar spine pain syndrome aged 21–65 years, it was shown that only nearly 12% of respondents could sit anywhere as long as they wanted. In turn, approximately 17% can sit only in their favorite chair for as long as I want, while 54% of the respondents have pain in the seating for more than 1 hour. In a study by Mikołajczyk et al. [14] carried out among 80 respondents, at an average age of 46 years with chronic pain in the lumbosacral segment, a significant improvement in the degree of disability was assessed with the use of the Oswestry questionnaire. There was a statistically significant reduction in the disability of respondents being subject to traditional physiotherapy. Next, in Czenczek-Lewandowska et al. [15], it was shown that the average value of points on the Oswestry scale after the completed rehabilitation period decreased by 45.6% from 16.98 to 9.24. A statistically significant difference was obtained between the results obtained on the Oswestry scale before and after the rehabilitation period. After rehabilitation, a decrease in the discomfort perceived while standing was observed in 68% of respondents, whereas in the scope of sitting in 58%, and sleeping among 66% of respondents. In turn, in a study conducted by Ryba et al. [16], among the patients of the Day Social Care Home No. 3 in Szczecin with pain in the lumbar spine, it was shown that almost 40% of the subjects did not feel pain while sitting. However, in 1/3, the pain only intensifies after more than 30 minutes of sitting. In turn, the majority of respondents feel discomfort in the standing position, and in over 60% of respondents the occurring pain disturbs sleep. The average results obtained in the Oswestry questionnaire amounted to 1.72, standing — 2.00, and sleeping — 1.22. 77% of respondents using rehabilitation reported a reduction in pain in the lumbar spine. The positive role of rehabilitation in spinal pain syndromes has also been confirmed in studies carried out in Vienna. There has been a significant improvement in terms of pain and quality of life. Also, after a period of 1.5 years, the respondents were reassessed and the continuing improvement effect was confirmed [17,18].

Conclusions

1. In the conducted study, there was a significant impact of sanatorium treatment on the results obtained in the Oswestry questionnaire in the areas of sitting, standing and sleeping.
2. After the end of the stay, it was noticed that the number of people who could sit in the chair any number of hours, as both the number of people who could stand any number of hours had significantly increased.
3. On the day of discharge from the sanatorium, the number of people declaring that pain does not affect sleep also significantly increased.

Implications for Nursing Practice

Back pain in the lumbar spine has become the most frequent civilization disease, which is why the patient's education on this disease, ergonomy of work and leisure should play a very important role in the nurse's work. Treatment requires a great deal of sensitivity and should be characterized by interdisciplinary character. Nursing staff should also pay special attention to the possibility of pain occurrence, which often accompanies patients with spinal pain syndromes. Therefore, it is important to systematically determine the intensity of pain experienced and its effect on the occurrence of self-care and self-care deficits. The occurring pain can significantly cause functional impairment and reduce patients' quality of life.

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