

YOGA AS A SUITABLE METHOD FOR A SOLVING OF LOW BACK PAINNÁZEV

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Abstrakt

The study deals with utilization of yoga in low back pain patients. The main aim was to investi-gate the effect of practice the program Yoga for Back Pain from Yoga in Daily Life System on back pain and disability in lumbosacral area. It also investigates how participants subjectively perceive impact of the yoga exercise on their physical and mental state. The group consisted of 57 participants. The methods used were standardized Oswestry Disability Index Questionnaire, numeric rating scale of pain intensity and our own non-standardized questionnaire. The partic-ipants filled the measured data before the therapy and after two months of the yoga exercise.

Keywords

Yoga in Daily Life, Low back pain. Oswestry Disability Index Questionnaire, Oswestry Numer-ic rating scale of pain intensity.

INTRODUCTION

Global present prevalence of low back pain running one month and more in adults is 23%, one year prevalence of low back pain is 38% (Hoy, 2012). Approximately 90% of cases is non-specific lumbar pain (van Tulder, 2002). There are many methods for treating back pain and many of them are inspired or use some techniques of yoga. In treatment of back pain we need to have a complex approach. Yoga as science of body, mind, consciousness and soul re-presents one of the methods used in back pain treatment. Yoga effects are complex for body, mind, consciousness and soul, bringing balance and harmony (Maheswarananda, 2006). The yoga system "Yoga in Daily Life – System" is widely spread in Europe, USA, India, etc. and is practicing over 45 years in Slovakia and in the Czech Republic.

The training program "Yoga in Daily Life-System" was created and formed on the basis of the yoga tradition passed the line of yoga masters and on the basis of the experience with the mentality and the

physical features of man "from the West". The Yoga in Daily Life-System incorporates aspects of all three options affecting human health complex. It also offers special programs for back pain, for healthy joints, for healthy heart and in the case of diabetes. Stra-tegic objectives in the application sphere "Medicine" are prevention and treatment about life-style diseases. In the frame of application of the "Yoga in Daily Life- 42 System" were conducted research studies on hypertension, type 2 diabetes, cholesterol disorders, asthma and back pain in collaboration with the University Hospital and Palacky University in Olomouc University Hospital MU Brno (Hornof, Krejčí, 2016).

The system is known also in USA, Canada, Australia, India and in other parts of world. The author of the system is the Indian yoga master Vishwaguru Mahamandaleshwar Paramhans Swami Maheswarananda. The system also includes specific program for back pain. It was created in collaboration with doctors and physiotherapists. Similar to classic system, it is also divided to 8 units. Main techniques of the system Yoga in Daily

Life are Asana (physical exercises), Pranayama (breathing control and breathing exercises), Hatha Yoga Kriyas (cleansing techniques), Pratyahara techniques (relaxation techniques, mind control techniques), Yoga nidra (yogic sleep), Dharana (concentration techniques) and Dhyana (meditation "Self-Inquiry-Meditation"), mudras and bandhas (neuro-stimulation techniques).

OBJECTIVE

The main objective of the presented study was to investigate the effect of practising the pro-gram Yoga for Back Pain from Yoga in Daily Life System on back pain and disability in lum-bosacral area. It also investigates how participants subjectively perceive impact of the yoga exercise on their physical and mental state yoga in low back pain patients.

HYPOTHESIS

H1: After two months of practicing the program Yoga for Back Pain from Yoga in Daily Life System there will be significant reduction of back pain in lumbosacral area in the observed group.

H2: After two months of practicing the program Yoga for Back Pain from Yoga in Daily Life System there will be significant improvement of life quality in the observed group according to Oswestry Disability Index Questionnaire.

H3: After two months of practicing the program Yoga for Back Pain from Yoga in Daily Life System, more than two thirds of the participants will subjectively positively assess their physical and mental state.

METHODS

Material

The group consisted of 51 females and 6 males in the average age 45,7 years (ranging from 22 to 71). Including criteria for the study was pain in lumbosacral area. Excluding criteria were

other acute diseases, radicular or pseudoradicular symptomatology. Mental character of work was prevailing (63%) in sitting posture (53%) and change of posture during work (42%).

Procedure

The data were collected from January 2016 to January 2017. The research project was focused on males and females. The participants participated voluntarily, on the base of signed an informed consent after a proper information. All participants completed PRE balance testing in selected indicators and after that absolved the yoga intervention program of "Yoga in Daily Life System for Solving Back Pain". After the two months intervention the participants absolved the POST examination.

Diagnostics tools

According to the objective followed diagnostic tools were used:

- Standardized method "Oswestry Disability Index Questionnaire" (Jeremy Fairbank et al. 1980) as a main tool to analyze objectively the changes in participants after the intervention.
- Numeric rating scale of pain intensity (<http://pain-focus.com/wp-content/uploads/2014/07/Numeric-Rating-Scale.jpg>)
- Non-standardized questionnaire named "Effects of Yoga in Daily Life-System for Solving Back Pain" (Oriňáková, 2017). It consisted of 21 questions aiming to describe mental and physical state after the absolved yoga classes and the intervention yoga program.

Intervention

For two months, participants attended classes of intervention program of "Yoga in Daily Life System for Solving Back Pain". The participants attended the

class of 90 minutes duration once a week in one of the centers of Yoga in Daily Life, in different cities of Slovakia and Czech Republic, under the guidance of certified Yoga in Daily Life teachers. Participants were advised to practice concrete learned yoga exercises and techniques daily at home for half an hour, at least to practice two times weekly for 20 minutes at home. During the two months in yoga classes,

exercises from preparatory, first and second unit of “Yoga in Daily Life System for Solving Back Pain” program have been practiced. Every class consisted of relaxation, practicing of full yoga breath technique and its parts, asanas of the stated units, relaxation at the end, breathing technique (pranayama) and short meditation.

RESULTS AND DISCUSSION

There was statistically significant reduction in pain intensity. The average pain on numeric scale from 0 to 10 was 4,6 before the therapy and 1,9 after. The average percentage improvement was 62% with statistical significance $p=0,000$.

Graph 1 Average pain intensity before and after therapy

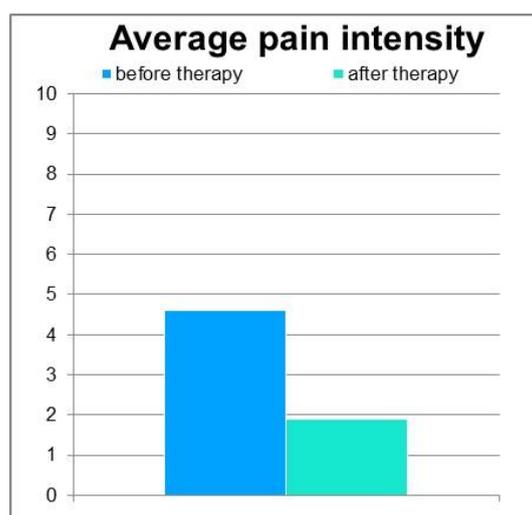


Table 1 Reduction of back pain after time

How long after regular practice have you felt reduction in pain intensity?	Abs. Value	%
Immediately after first yoga class	3	5 %
After two weeks	8	14 %
After one month	21	37 %
After two months	23	40 %
No reduction of pain intensity	2	4 %
Overall	57	100 %

There was statistically significant reductions in ODI index, which was 16,7% at the beginning and 7,8% after the therapy. The average percentage improvement was 53,3%, with p-value $p=0,000$.

Graph 2 Average Oswestry Disability Index

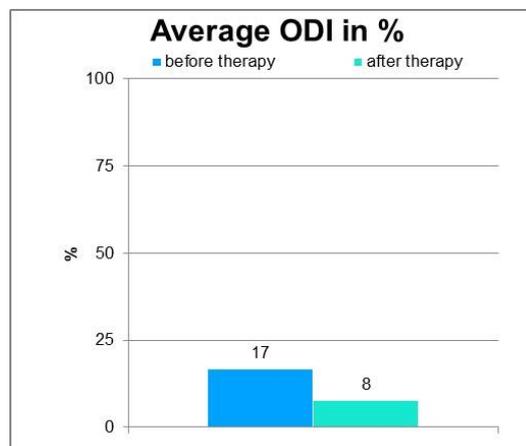


Table 2 Mental state after yoga class

How do you mentally feel after yoga?	abs. value	%
I usually feel greater inner peace and mental balance	56	98 %
I am usually more nervous and	0	0 %
I usually feel the same as before yoga class	1	2 %
Overall	57	100 %

There was also statistically significant improvement of subjective evaluation of psychical and mental state, where in all the analyzed questions was the p-value $< 0,05$. All the three hypothesis were verified.

Table 3 Physical state after yoga class

How do you physically feel after yoga?	abs. value	%
I usually have more energy after yoga class	51	89 %
I usually feel tired and	2	4 %
I usually feel the same as before yoga class	4	7 %
Overall	57	100 %

From the non-standardized questionnaire results show that:

- 89% of participants have better stress management (in the beginning, 84% of them stated to have stress in everyday life)
- 98% of them stated to feel greater inner peace and mental balance right after yoga class
- In questions of self-control, 76% of them is able to control their breath better, 86% of them is able to be aware and control their posture
- 89% of them usually feel more energy right after yoga class, what corresponds with Maheshwarananda's statement that after yoga, we should not feel tired and exhausted but relaxed and vital (2006)
- 96% participants want to continue in yoga classes

An open question asked to describe any other changes that participants may feel in connection with yoga practice. It was responded by 24 participants, stating mental well-being, balance, mental endurance and better self-awareness and self-knowledge, empathy, positive life attitude, contentment, self-confidence, better sleep and patience.

CONCLUSION

On the base of the results analyses it can be concluded that the results showed that practicing Yoga for Back Pain program from the yoga system "Yoga in Daily Life-System" has positive effect on reducing pain and improving quality of life in patients with low back pain. It can be considered as a good therapeutic tool for the solving of the back pain and locomotor system disorders. It can be applied in prevention, therapy or as a compensation tool for sportsmen. This yoga program can also be easily applied in home

environment under the systematical guidance of the book, optimally along with a certified YIDL teacher. It is recommended to practice daily and as this complex system advise, not only yoga asanas, but also the other mentioned techniques that are integral part of it.

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