

kinsons disease, indicating the importance of expanding understanding of the genetic underpinnings of this disease. Hence the growing cases of the disease needs an early diagnosis before seeing the chronic symptoms in the alter elderly ages. Based on different aspects of research further genetic variations modifying researches should be done in the gene level to decrease the genetic factor of spreading of the disease. A single risk factor, therefore, is likely to pose a low risk and will likely differ depending on the specific characteristics of the population. Future research will need to identify additional risk factors.

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E. D. S. Kulasekara

Scientific supervisor: Ph.D., associate professor N. N. Usova

*Educational Establishment
“Gomel State Medical University”
Gomel, Republic of Belarus*

EFFICACY OF PHYSICAL EXERCISES AS A TREATMENT METHOD OF MIGRAINE

Introduction

Migraine is among the most common neurological disorders with high prevalence among young adults. Globally, age-standardized prevalence of migraine has been increased by 1.7% recently [1]. Migraine is a recurring syndrome of headache which is exaggerated by physical activity and followed by other neurological dysfunction symptoms such as nausea, photophobia and phonophobia [1, 2]. Additionally, in some patients, the migraine headache can be accompanied by aura which are sensory symptoms such as flashes of light, blind spots or tingling in hands or face that appear before or during the episode [2]. Moreover, it is also to be considered as the world’s most disabling medical illness as it causes marked economic and social effects like decreasing quality of life thus impairing work and family life [2]. In the present time exist various acute and preventive pharmacological treatment options like administration of triptans, ergots, acetaminophen and nonsteroidal anti-inflammatory drugs. Despite the fact that lack of effectiveness of these drugs and presence of adverse effects with continuous usage proceed towards exploring of non-pharmacological options to treat migraine [2, 3]. Moreover, evidences exist validating that exercise can be used to manage chronic pain conditions including depression, anxiety and sleep disorders.

Goal

Migraine is on the rise globally and decreased or lack of effectiveness of existing preventive measures on management of migraine lead the way for investigation of newer nonpharmacological treatment methods for migraine. Therefore, the primary intention of this

article is to review recent literature on efficacy of physical exercises as a treatment method of migraine and intended to help establish a proper exercise strategy for treating migraine.

Material and methods of research

PubMed, ResearchGate, Academia and other databases were searched for eligible studies. I used “headache” OR “migraine” OR “headache disorder” OR “exercise” OR “migraine and exercise” such keywords to assess information regarding migraine and exercise. Any type of primary or secondary studies that evaluated the relationship between migraine and exercise were included in this study. Studies were excluded if they were not in English or were not relevant to the topic. The data was then analyzed to obtain a final conclusion. Other statistics and data for the article were from the relevant recourses (see References below).

Results of the research and their discussion

Understanding the underlying pathophysiology of migraine is important for assessment and tailoring of recommendations regarding different exercise modalities that could be effective in the treatment of migraine. Accordingly, it is based on cortical spreading depression where an unknown cause triggers a wave of depolarization which spreads across cortical hemisphere, passing over trigeminal nerve causing release of neuropeptides (Calcitonin gene-related peptide, substance P) antidromically leading to neurogenic inflammation at the trigeminal nucleus bringing out central sensitization which is characterized as facial allodynia where pain arise with nonpainful stimuli such as touching the face, shaving. Conversely these neuropeptides cause neurogenic inflammation on dural blood vessels leading to peripheral sensitization instigating unilateral throbbing headache which worsens with bending over [4, 5]. By the present time, majority of studies that have been conducted by involving large populations have concluded that certain levels of physical activity are associated with alternating prevalence, frequency and duration of migraine attacks.

A randomized controlled trial consisting of 148 participants aged between 18 and 65 and with migraine have been allocated into three groups; relaxation, medication and exercise groups such wise in order to carry out the study. Participants were subjected for a three-month treatment period followed by assessments of migraine status, physical state level and oxygen uptake. Accordingly, participants of regular exercise group had experienced an improvement in the frequency of their migraine attacks and significant increase in oxygen uptake compared to other treatment. Overall, from a wider health-based perspective the study indicates that exercise is a non-pharmacological treatment option for migrain.

Various studies have been conducted to investigate non medicative, alternative methods to treat migraine and their efficacy. All things considered it has been concluded that aerobic exercises have much pronounced effect in reducing pain intensity, frequency and duration of migraine. A systemic review and meta-analysis carried out by Joris Lemmens, [5] included randomized controlled trials performed involving 357 patients of mean age 38 years with mean headache frequency of 9.4 days per month with average disease duration of 19 years. The patients were subjected to diverse types of aerobic exercises for certain durations. Results showed that aerobic exercise decreases the number of migraine days but significant evidence was not present on the effect of decreasing of attack duration and pain intensity.

The study by Dittrich SM [3], which is a randomized controlled using 30 female migraine outpatients where 15 patients were put through aerobic exercises with relaxation and the rest, controlled group was subjected other treatments. The aerobic exercise group participated in a 6week indoor exercise program with 45 minutes of exercise and 15 minutes of muscle relaxation. The results revealed that aerobic exercise has significant reduction of migraine pain intensity [3]. Another study reveals about a randomized controlled trial that have been conducted to find

the effect of aerobic exercise in migraine patients. The study was conducted in Pakistan [4], comprising 28 migraine outpatients aged between 20-50 years. Patients of experimental group had received supervised exercises including aerobic exercise followed by progressive muscle relaxation along with prophylactic medicine while the control group only received prophylactic treatment. Treatment was carried out for 6 weeks three times a week. Overall results depict that experimental group had better outcome post-intervention arriving to a conclusion that prophylactic medicine, aerobic exercises and progressive muscle relaxation used together have a depressing effect on migraine [4].

Moreover, in a community-based study of 480 medical students, revealed significantly lower migraine associated disability in who practiced regularly exercise compared to those who did no exercise. Physical exercise included both aerobic and strength training [5]. In a later randomized, controlled, clinical trial in Denmark evaluating the effect of aerobic exercise involving cross-training, biking and brisk-walking on 26 persons with migraine and co-existing tension-type headache and neck pain, it was revealed that exercise caused a reduced incidence of migraine and improved ability to engage in physical activity. Moreover, migraine frequency, pain intensity and duration were also reduced [5].

Conclusions

Based on the evidences it justifies that exercise regimens can be a valuable tool in the therapy of migraines because of pronounced efficacy, minimized side effects, innumerable health benefits and affordability. Thus, it can be concluded that physical exercises can be prescribed as a non medicative method of treating migraine. Additionally, headache specialists and general practitioners encouraged to incorporate physical exercises as a part of their patients' treatment strategy.

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N. Palliyaguruge Abeywickrama Gunarathna Umesha Niranji

Scientific supervisor: Ph.D., associate professor N. N. Usova

Educational Establishment

“Gomel State Medical University”

Gomel, Republic of Belarus

COMPARATIVE ANALYSIS OF THE ROLE OF NOVEL BIOMARKERS IN PARKINSON'S DEMENTIA AND LEWY BODY DEMENTIA

Introduction

Dementia is a broad term used to describe a range of symptoms associated with cognitive decline and memory loss that interfere with daily functioning. It is a progressive condition that affects thinking, behavior, and the ability to perform everyday tasks [1]. Parkinson's dementia, a subtype of dementia, occurs in individuals with Parkinson's disease, a neurodegenerative disorder characterized by motor symptoms like tremors and stiffness. Parkinson's dementia is