ТЕЗИ IX НАЦІОНАЛЬНОГО КОНГРЕСУ РЕВМАТОЛОГІВ УКРАЇНИ З МІЖНАРОДНОЮ УЧАСТЮ 2025

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1. EFFECTIVENESS OF A MOBILE APP-BASED LIFESTYLE INTERVENTION ON SELF-EFFICACY AND HEALTH LITERACY IN PATIENTS WITH RHEUMATOID ARTHRITIS: A PILOT RANDOMIZED CONTROLLED TRIAL

D. Fedkov

Bogomolets National Medical University, Kyiv

Background. Self-efficacy and health literacy are crucial for effective self-management in patients with rheumatoid arthritis (RA), yet many patients struggle with both, leading to poor treatment adherence and worse health outcomes. Low self-efficacy is associated with greater pain, fatigue, and disability, while limited health literacy impairs the ability to understand and follow medical advice. Improving these factors through targeted education and support can significantly enhance disease control and quality of life in patients with RA.

The objective: to evaluate the impact of 12 weeks of mobile application use on self-efficacy and health literacy in patients with RA.

Materials and methods. Sixty patients with RA participated in a single-blind, randomized controlled trial. Patients were randomized to either report patient-reported outcomes only (control group) or to additionally receive 12 weeks of individualized lifestyle counseling via the Mida Rheuma® app (intervention group). This CE-certified software offers personalized treatment using a conversational agent, supervised learning algorithms, and a dynamic feedback system to recommend and adjust 7–11-day evidence-based action plans across areas such as diet, mental health, exercise, and medication adherence. Action plans are tailored to patient profiles through clinical data, medical guidelines, and machine learning techniques and are delivered via chat with multimedia support to promote sustained behavioral change. The Arthritis Self-Efficacy Scale–8 item (ASES-8) and the European Health Literacy Survey Questionnaire (HLS-EU-Q16) were used to assess self-efficacy and health literacy, respectively.

Results. Of the 60 patients included in the analysis, 73.3% were female, with a mean age of 52.4 ± 12.81 years. At baseline, mean self-efficacy scores were 7.28 ± 1.65 (intervention) and 6.62 ± 1.27 (control), while health literacy scores were 13.73 ± 2.62 (intervention) and 13.57 ± 1.98 (control). After 12 weeks, the intervention group showed a trend toward improvement in ASES-8 scores by 8.41% and HLS-EU-Q16 scores by 5.07% ((p = 0.054 and p=0.087, respectively). In contrast, the control group showed a negative trend in both measures. The improvement in ASES-8 and HLS-EU-Q16 was significantly greater in the intervention group compared to the control group (p = 0.001 and p = 0.018, respectively).

Conclusions. Mobile applications can significantly improve self-efficacy and health literacy in patients with RA. These findings highlight the potential of digital interventions and the need for continued research to optimize self-management strategies in RA patients.

2. THE STATE AND CORRECTION OF DYSLIPIDEMIA AND ENDOTHELIAL FUNCTION IN PATIENTS WITH ANKYLOSING SPONDYLITIS

O.I. Palamarchuk, S.L. Podsevakhina, O.S. Chabanna

Zaporizhzhia State Medical and Pharmaceutical University, Faculty of Postgraduate Education Department of internal diseases, Zaporizhzhia

Ankylosing spondylitis (AS), or Bechterew's disease, is associated with an increased risk of cardiovascular diseases, which is partly due to endothelial dysfunction — a violation of the functions of the inner layer of blood vessels, responsible for the regulation of vascular tone, inflammation and thrombus formation. Recent studies have convincingly proven that patients with AS have a reduced endothelium-dependent dilation of the brachial artery, which indicates impaired endothelial function. Endothelial dysfunction is an early marker of cardiovascular complications in AS. Therefore, its assessment and correction can help in the prevention of heart attacks, strokes and other complications. Omega-3 polyunsaturated fatty acids (omega-3 PUFAs) and preparations based on them, mainly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), increase the bioavailability of nitric oxide (NO) — the main mediator of vascular relaxation, contribute to the improvement of the restoration of flexibility and elasticity of arteries, reduce vascular stiffness, and reduce the frequency of cardiovascular events in patients with ankylosing spondylitis and ischemic heart disease.

The goal of the present study was to investigate the state of endothelial function in patients with ankylosing spondylitis and the possibilities of its correction using Omega-3 polyunsaturated fatty acids.

Materials and methods. 90 patients were examined (45 men (50,0%) and 45 women (50,0%) aged (40,1 ± 4,4) years). The duration of the disease was (7,6 ± 2,5) years. All subjects were treated with basic

treatment for AS. Patients were divided into two groups: Group 1: 45 patients received a combination of atorvastatin (20 mg/day) and omega-3 PUFA (2 g/day) — the drug «Omakor». Group 2: 45 patients took atorvastatin at a dose of 20 mg/day. The study methods included the determination of total cholesterol, LDL, HDL and triglycerides (TG), as well as the level of endothelin-1 (ET-1) by enzyme immunoassay. To study endothelial function, dopplerography of the brachial artery (BA) in the middle third was used according to the method of D.S. Zelermeyer before and after occlusion with a tonometer cuff and sublingual administration of 500 mg of nitroglycerin with assess ment of indicators of endothelium-dependent (EDVD) and endothelium-independent (ENVD) vasodilation. The presence of endothelial dysfunction was verified by a decrease in the EDVD of the brachial artery by less than 10% from the initial level. Statistical analysis of the obtained data was performed using parametric and nonparametric statistics on a personal electronic computer using Microsoft Excel software and «STATISTICA version 7.0».

Results. An increase in the diameter of the brachial artery in response to the reactive hyperemia test during follow-up was observed in both groups; however, it was significantly greater ($p<0.05$) in patients in Group 1, who received combined lipid-lowering therapy, compared to those in Group 2, who received atorvastatin monotherapy. Similar trends were observed in the dynamics of endothelium-dependent vasodilation (EDVD) and endothelium-independent vasodilation (ENDVD) of the brachial artery. The effect of atorvastatin on the level of endothelin-1 (ET-1) in Group 1 was significant — a 29.8% decrease ($p<0,02$).

In contrast, in Group 2, where combination therapy with the addition of omega-3 polyunsaturated fatty acids (PUFAs) was used, ET-1 levels decreased even more markedly — by 39,4% ($p < 0,05$), indicating a highly significant difference from baseline values. Among patients with ankylosing spondylitis (AS), type IIa dyslipidemia was diagnosed in 45 individuals (50,0%), type IIb dyslipidemia in 31 patients (34,4%), and type IV dyslipidemia in 17 patients (15,6%). After 12 weeks of treatment, the use of both monotherapy and combined lipid-lowering therapy allowed achieving the target LDL-C level (<2,5 mmol/L) in 79,9% of patients in Group 1 and 68,4% in Group 2, respectively. A statistically significant and more pronounced reduction in triglyceride (TG) levels was observed in patients receiving combined lipid-lowering therapy after 12 weeks of treatment. Additionally, a notable increase in HDL-C levels was detected in 58,7% of Group 1 and 43,4% of Group 2.

Conclusions. The use of combined hypolipidemic therapy with atorvastatin and omega-3 polyunsaturated fatty acids (the drug «Omacor») allows normalization of the lipid profile in patients with ankylosing spondylitis (AS) and leads to a statistically significant ($p<0,05$) reduction in triglyceride (TG) levels. A positive and statistically significant effect of this combination on endothelial function was identified, manifested by a notable and reliable decrease in vasoconstrictor activity and an enhancement of vasodilation.

3. AGE-RELATED INFLAMMATORY AORTOPATHIES AS A SUBJECT OF SCIENTIFIC RESEARCH

O. Puzanova1, A. Lyzikov2

[1]PHEE Kyiv Medical University, Kyiv

[2]James Cook University Hospital, Middlesbrough, The United Kingdom

Aortic diseases (ADs) contribute much to morbidity and serve as a model for studying vascular and inflammatory aging. Traditionally they are within the scope of interest of surgeons, now of multidisciplinary teams. Aortic mortality has increased in aged women — a patient category that is particularly dominant among those with inflammatory rheumatic diseases (RDs). The lack of comprehensive scientific research into the problem of ADs is widely acknowledged. Aimed to study advanced and historical international experience, identify prevailing concepts and promising further research directions regarding inflammatory aortopathies, and being specialists in the field of vascular surgery, rheumatology and evidence-based medicine (EBM), we conducted a complex interdisciplinary study.

Materials and methods. Methods of systemic, interdisciplinary, EBM approaches, information analysis and expert assessment were used to investigate special literature on ADs and related conditions (in general, 2450 multilingual sources without time limitations, first published in the EBM databases).

Results. New nomenclature of inflammatory ADs by the 2015 Consensus of the Society for Cardiovascular Pathology and the Association for European Cardiovascular Pathology offered 4 diagnostic classes (aortitis, periaoritis, atherosclerosis and atherosclerosis with excessive inflammation including inflammatory atherosclerotic aneurysm, IAA) and 4 basic histologic patterns, which were discussed in relation to RDs, taking into account literature data on those with high prevalence of aortitis (>10%): giant cell arteritis (GCA), Takayasu arteritis, Cogan's syndrome, ankylosing spondyloarthritis and recurrent polychondritis. Since then, new knowledge has emerged regarding new and overlap ADs, mostly in the aged: aortitis in VEXAS syndrome (±GCA, etc.), COVID-19-induced aortic aneurysm or dissection as well. Evidence has accumulated of the role of genetic and epigenetic factors in late-onset ADs. The paradigm is multifactorial nature and universal pathogenetic role of inflammation in all ADs (ranged from low-grade inflammation with atherosclerosis or sporadic degenerative aneurysm to severe with purulent aortitis or active GCA). Other scientific concepts on the topic are of: 1) decreasing aortic mortality by: target anti-inflammatory stabilization of aortic aneurysm; early diagnose of vascular subtype of immunoglobulin G4-related disease (IgG4-RD), particularly primary thoracic aortitis; 2) isolated aortitis as a main risk factor