

Міністерство освіти і науки України
Національний університет
«Полтавська політехніка імені Юрія Кондратюка»
Національний університет фізичного виховання і спорту України
Полтавський державний медичний університет
Сумський державний педагогічний університет імені А.С.Макаренка
Прикарпатський національний університет імені Василя Стефаника
ГО «Всеукраїнське об'єднання фізичних терапевтів»
Vrije Universiteit, Belgium
Strasbourg University, France

**ФІЗИЧНА РЕАБІЛІТАЦІЯ ТА
ЗДОРОВ'ЯЗБЕРЕЖУВАЛЬНІ ТЕХНОЛОГІЇ:
РЕАЛІЇ І ПЕРСПЕКТИВИ**

Збірник наукових матеріалів VIII Всеукраїнської науково-практичної
Інтернет-конференції з міжнародною участю

24 листопада 2022 року

**PHYSICAL REHABILITATION AND HEALTHSAVING
TECHNOLOGIES: REALITIES AND PERSPECTIVES**

Collection of materials of the VIII All-Ukrainian Scientific and Practical
conferences with international participation

November 24, 2022

Полтава 2022

РОЗДІЛ 1

ІННОВАЦІЙНІ ТЕХНОЛОГІЇ ФІЗИЧНОЇ ТЕРАПІЇ ТА ЕРГОТЕРАПІЇ

Antoine Lanfranchi

Faculty of Social Sciences and Humanities
Strasbourg University (Université de Strasbourg)

Viktoriia Horoshko

Candidate of Medical Sciences
National University «Yuri Kondratyuk Poltava Polytechnic»

MODERN PRACTICES OF REMOTE REHABILITATION OF PATIENTS WITH CORONARY HEART DISEASE

Cardiovascular disease (CVD) is considered the leading cause of death worldwide, with more people dying from CVD than from cancer. Global CVD mortality increased by 41% between 1990 and 2013 due to population growth and aging [1]. Annually, 1.8 million deaths from coronary heart disease (CHD) are registered, which is 20% of all deaths in Europe, despite significant differences between countries [2]. In European countries, the incidence of myocardial infarction (MI) averages 144 cases per 100 thousand people per year. WHO focuses on two aspects of CR - the restoration of the patient's physical performance and health, as well as the resumption of his active participation in society in new conditions – after suffering myocardial infarction [5].

Purpose of the study. Analysis of the modern practice of using remote forms of medical consultations and dispensary observation of patients with coronary heart disease.

In recent years, the medical community has established itself in the opinion that CR not only significantly improves the condition of patients with CVD and their quality of life, but also increases its duration. These views are supported by the American Association of Cardiovascular Prevention and Rehabilitation (2005). During the CR period, monitoring the condition of patients becomes a difficult task, since at home they are no longer under constant medical supervision. Remote monitoring solves this problem and significantly increases the turnover of high-tech hospital beds, reducing the average duration of one hospitalization while maintaining the high quality of medical care. From the patient's point of view, the main benefit of telemedicine technologies is the increase in the availability of medical care, especially in conditions where this was previously difficult. For example, according to the European Cardiac Rehabilitation Inventory Survey, less than 20% of MI patients participate in standard outpatient CR programs, as this is hindered by many factors: transport problems, reluctance to leave home, anxiety, and depression, the difficulty of incorporating outpatient visits into daily life, etc. [10]. But modern advances in telemedicine will allow doctors and other medical professionals to monitor the condition of patients with CVD remotely.

In 2016, C. Chan et al. published a systematic review and meta-analysis on both in traditional form and using technology. The analysis included studies in which the

effectiveness of rehabilitation was assessed based on the results of stress tests and TST. We searched for sources published up to July 2015 in the Medline, Embase, and CINAHL databases. Of the 1431 studies identified, only 8 met the criteria for inclusion in the meta-analysis. The authors did not find significant differences in the results of standard and distance training, except for the duration of the exercise test, which was longer in the traditional CR group [9]. Research by D. Shaw et al. [6, 10], and A. Zutz et al. [2] also demonstrated that telephonic exercise monitoring is as effective as standard inpatient rehabilitation programs in terms of improving patient performance, as it provides clinically meaningful beneficial effects on risk factors and exercises tolerance towards the end 4 weeks after heart surgery.

Comprehensive telemedicine support, including patient monitoring, weekly training sessions, psychological support, and interactive motivational tools, according to E. Piotrowicz and R. Piotrowicz, can correct cardiovascular risk factors and significantly affect the incidence of complications and mortality [3, 7].

Telerehabilitation methods range from telephone consultations to the use of external or implantable electronic devices [8]. Telecommunication medical care (telecare) includes teleassessment (active remote assessment of indicators), support (remote psychological support), teletherapy (remote therapy appointment), telecoaching (remote education and instruction on treatment), teleconsulting (remote counseling) and telerehabilitation (remote rehabilitation). The latter implies telemonitoring (telemetry) and remote control of physical training (physical activity).

Conclusions. Telemonitoring makes it possible to control the stability of the clinical status and actively monitor the physical training of patients with CVD who are undergoing comprehensive rehabilitation at home. Home telerehabilitation is safe, effective, and patient-friendly, so its use may encourage patients to participate more actively in comprehensive programs. Telerehabilitation improves compliance with diet, smoking cessation, healthy lifestyle, and physical training. Thus, it can be an alternative to the standard outpatient rehabilitation of patients suffering from CVD. The issue of clinical and economic efficiency, as well as the safety of the introduction of telecardiorehabilitation, including remote ECG monitoring, in patients after acute MI, requires further study.

Literature

1. Aragaki D. et al. Cardiopulmonary telerehabilitation //Physical Medicine and Rehabilitation Clinics. – 2021. – T. 32. – №. 2. – C. 263-276.

2. Batalik L. et al. Benefits and effectiveness of using a wrist heart rate monitor as a telerehabilitation device in cardiac patients: A randomized controlled trial //Medicine. – 2020. – T. 99. – №. 11.

3. Cristo D. et al. Telerehabilitation for cardiac patients: systematic review //International Journal of Cardiovascular Sciences. – 2018. – T. 31. – C. 443-450.

4. Katta N. et al. Obesity and coronary heart disease: epidemiology, pathology, and coronary artery imaging //Current problems in cardiology. – 2021. – T. 46. – №. 3. – C. 100655.

5. Maulana S. et al. The Potential of Cardiac Telerehabilitation as Delivery Rehabilitation Care Model in Heart Failure during COVID-19 and Transmissible

Disease Outbreak: A Systematic Scoping Review of the Latest RCTs //Medicina. – 2022. – T. 58. – №. 10. – C. 1321.

6. Milewski K. et al. Actual status and future directions of cardiac telerehabilitation //Cardiology Journal. – 2022.

7. Pencina M. J. et al. Quantifying importance of major risk factors for coronary heart disease //Circulation. – 2019. – T. 139. – №. 13. – C. 1603-1611.

8. Piotrowicz E. et al. Hybrid comprehensive telerehabilitation in heart failure patients (TELEREH-HF): a randomized, multicenter, prospective, open-label, parallel-group controlled trial–study design and description of the intervention //American Heart Journal. – 2019. – T. 217. – C. 148-158.

9. Sanchis-Gomar F. et al. Epidemiology of coronary heart disease and acute coronary syndrome //Annals of translational medicine. – 2016. – T. 4. – №. 13.

10. Subedi N. et al. Implementation of telerehabilitation interventions for the self-management of cardiovascular disease: systematic review //JMIR mHealth and uHealth. – 2020. – T. 8. – №. 11. – C. e17957.

Jo Verschueren

Doctor in Rehabilitation Sciences and Physical Therapy

Doctor in Philosophy

Human Physiology and Sports Physiotherapy of

the Vrije Universiteit Brussel

Viktoriia Horoshko

Candidate of Medical Sciences

National University «Yuri Kondratyuk Poltava Polytechnic»

KINESIOLOGY AND REHABILITATION IN STIMULATING THERAPY OF CHILDREN WITH DISABILITIES

In motor and mental activity, the formation of brain function plays a special role in space. This is also important for the recovery process, so we should pay attention to this and try to identify from the inner contemplation of the concept of space and human communication with it, more effective ways to improve the brain and then use them in the practice of restoring human functions, we use space, performing the actions of the whole body (locomotion) and parts of the body, but these same actions acquire special significance against the background of an object moving in space – the main stimulus for human life. In this direction, we must begin the search for Stimulation Therapy and its methods.

Keywords: kinesiology, musculoskeletal system, antagonist's muscles, rehabilitation.

The level of development of children's speech is directly dependent on the degree of formation of fine movements of the fingers, and the improvement of speech directly depends on the degree of hand training [1]. Based on the results of studies conducted with the participation of a large number of children, the following pattern was revealed: if the development of finger movements corresponds to age, then speech development