

Receptivna muzikoterapija kao dodatna intervencija u programu rehabilitacije kardiovaskularnih bolesnika

Receptive Music therapy as an Additional Intervention in the Rehabilitation Program of Cardiovascular Patients

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SAŽETAK: Brzim i naglim razvojem tehnologije i užurbanim načinom života došlo je do povećanja stresa, anksioznosti i nezadovoljstva. Procesi vezani za psihički stres pridonose multifaktorskom riziku od pojave i razvoja različitih bolesti. Visoka učestalost akutnih bolesti srca nameće potrebu stvaranja učinkovite i ekonomične strategije prevencije i rehabilitacije. Muzikoterapija, kao mlada disciplina, može se smatrati interdisciplinarnom i transdisciplinarnom jer sadržava elemente iz nekoliko područja i disciplina povezanih na nove načine te profesionalno koristi glazbu i njezine elemente u svrhu postizanja terapijskih ciljeva. Receptivna muzikoterapija, kao komplementarna terapija, služi za opuštanje i upravljanje stresom i nema nuspojava. Sustavan pregled radova o učinku glazbe na stres i anksioznost pokazuje da slušanje glazbe može najefikasnije djelovati na stupanj anksioznosti u ljudi ako im se ponudi odabir glazbenog sadržaja prema njihovim sklonostima. Daljnja istraživanja trebaju ispitati način percepcije glazbe s obzirom na glazbene preferencije bolesnika u sklopu programa kardiovaskularne rehabilitacije. Da bi se to ustanovilo, potrebno je osmisliti instrumente za procjenu i prikupljanje podataka o glazbenoj preferenciji i percepciji glazbe, kao i uključiti educiranog muzikoterapeuta u tim koji provodi kardiovaskularnu rehabilitaciju.

SUMMARY: The rapid development of technology and hectic lifestyles have led to an increase in stress, anxiety, and dissatisfaction. Processes related to psychological stress contribute to the multifactorial risk for the occurrence and development of various diseases. The high incidence of acute heart disease imposes the need to create efficient and cost-effective prevention and rehabilitation strategies. As a young discipline, music therapy can be considered interdisciplinary and transdisciplinary because it contains elements from several professional fields and disciplines connected in new ways and represents the professional use of music and musical elements to achieve therapeutic goals. As a complementary therapy, receptive music therapy serves to relax and manage stress and has no side-effects. A meta-analysis on the effects of music on stress and anxiety shows that listening to music can most effectively reduce the degree of anxiety in people if they are offered to make a choice of music content according to their preferences. Further studies should examine the way music is perceived with regard to patient musical preferences within a cardiovascular rehabilitation program. To establish this, it is necessary to design instruments for assessing and collecting data on music preference and perception of music, as well as to include a certified music therapist in the cardiovascular rehabilitation team.

KLJUČNE RIJEČI: receptivna muzikoterapija, glazba, komplementarna terapija, kardiovaskularna rehabilitacija.

KEYWORDS: receptive music therapy, music, complementary therapy, cardiovascular rehabilitation.

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Uvod

Brzim i naglim razvojem tehnologije stvoreno je obilje materijalnih dobara, što je, s jedne strane, dovelo do napretka, a, s druge, do povećanja stresa, anksioznosti i nezadovoljstva. Osobe koji pate od nagomilanoga stresa lakše podliježu bolestima, napose psihosomatskim i kardio-

Introduction

The rapid development of technology has led to the creation of an abundance of material goods, which on the one hand has led to progress and on the other hand to increased stress, anxiety, and dissatisfaction. People who suffer from accumulated stress are more susceptible to diseases,

vaskularnim. Zbog potpune međusobne ovisnosti tjelesnih, emocionalnih i duševnih procesa stres djeluje na svaku fazu čovjekova života. Procesi vezani za psihički stres pridonose multifaktorskom riziku od pojave i razvoja bolesti¹. Visoka učestalost akutnih bolesti srca u cijelom svijetu, kao i visoki troškovi povezani s njihovim liječenjem, postavili su pred stručnjake zadatak da razviju pristupačne, učinkovite i ekono- mične strategije prevencije^{2,3}.

U bolesnika koji imaju koronarnu bolest srca često se registira tjeskoba. Taj stres stimulira simpatički sustav, a očituje se povećanom frekvencijom srca, respiratornim teškoćama, povišenim arterijskim tlakom, simptomima anksioznosti i dr. Navedeni štetni učinci čine veći rizik u kardiovaskularnih (KV) bolesnika, uključujući i iznenadnu srčanu smrt. Stoga je od presudne važnosti da se bolesnicima s KV bolestima omoguće i organiziraju programi za smanjenje stresa^{4,5}. Interdisciplinarnim i transdisciplinarnim pristupom zdravstvenih djelatnika koji timski djeluju u specijaliziranim bolničkim ili ambulantnim centrima provodi se KV rehabilitacija kao dio sekundarne prevencije. Cjelovit pristup temelj je KV rehabilitacije koja obuhvaća procjenu individualnog rizika, preporučenu tjelesnu aktivnost, kontrolu čimbenika KV rizika, terapijsku edukaciju i savjetovanje, intervenciju usmjerenu na psihičko funkcioniranje i ponašanje bolesnika, kao i ocjenu radne sposobnosti⁶. Muzikoterapija, kao planska intervencija koja je sastavni dio programa KV rehabilitacije, može pomoći smanjenju anksioznosti i poboljšati raspoloženje. U razdoblju koje slijedi treba voditi brigu da se osim kardiologa uključe i ostali stručnjaci te da se uspostavi suradnja s udrugama građana i drugim dionicima čije su aktivnosti komplementarne ciljevima Radne skupine za prevenciju i rehabilitaciju KV bolesti⁷.

Receptivna muzikoterapija

Među raznim vrstama terapija u kategoriji komplementarnih terapija čini se da je muzikoterapija jedna od najpopularnijih i najprihvatljivijih intervencija.⁸⁻¹⁵ Razlog je u tome što je lako dostupna, mogu je razumjeti i prihvatiti zdrave osobe kao i bolesnici¹⁶. Muzikoterapija, kao mlada disciplina, mogla bi se smatrati interdisciplinarnom, čak i transdisciplinarnom jer sadržava elemente iz nekoliko područja i disciplina povezanih na nove načine¹⁷. Prema definiciji Američkog udruženja za muzikoterapiju, muzikoterapija kao komplementarna terapija profesionalno koristi glazbu i njezine elemente tijekom intervencije u medicinskom, obrazovnom i svakodnevnom okruženju, u radu s pojedincima, skupinama, obiteljima ili zajednicama koje nastoje ostvariti optimalnu kvalitetu života i poboljšati tjelesno, socijalno, emotivno, spoznajno i duhovno zdravlje¹⁸. Istraživanja, edukacija i klinička praksa u muzikoterapiji temelje se na stručnim standardima koji su postavljeni s obzirom na kulturološko, socijalno i političko okruženje. Muzikoterapija se može provoditi kao aktivan oblik muzikoterapije, u kojemu se zajedno s klijentom stvara muzika, ili pak kao receptivna muzikoterapija, u kojoj se, ovisno o preferencijama korisnika, pomno bira glazba za opuštanje koja pomaže u smanjenju stresa i anksioznosti, kao i u lakšem prihvaćanju novonastalih životnih uvjeta¹⁹.

U suvremenim istraživanjima o utjecaju glazbe na psiho-emocionalno ponašanje čovjeka ističe se važnost otkrivanja međusobne povezanosti same skladbe i potaknutih fizioloških učinaka, kao i povezivanje estetskog užitka i osjećaja

especially psychosomatic and cardiovascular diseases. Due to the complete interdependence of physical, emotional, and mental processes, stress affects every phase of a person's life. Processes related to psychological stress contribute to the multifactorial risk of disease onset and development.¹ The high incidence of acute heart disease worldwide as well as the high costs associated with their treatment have set professionals to task of developing affordable, efficient, and cost-effective prevention strategies.^{2,3}

Anxiety is often observed in patients with coronary heart disease. This stress stimulates the sympathetic system, which manifests as increased heart rate, respiratory difficulties, high blood pressure, and anxiety symptoms. These adverse effects pose a higher risk for cardiovascular (CV) patients, including sudden cardiac death. It is, therefore, crucial to provide and organize stress management programs for patients with CV diseases.^{4,5} The interdisciplinary and transdisciplinary approach by health professionals who work as a team in specialized hospitals or outpatient centers conducts CV rehabilitation as a part of secondary prevention. A holistic approach is the foundation of CV rehabilitation, which includes individual risk assessment, recommended physical activity, control of CV risk factors, therapeutic education and counseling, interventions focused on the mental functioning and behavior of patients, and assessment of work ability.⁶ Music therapy, as a planned intervention that is an integral part of the CV rehabilitation program, can help reduce anxiety and improve mood. In the future, care should be taken to include and cooperate with experts in addition to cardiologist and to establish cooperation with citizen associations and other stakeholders whose activities are complementary to the goals of the Working Group for Prevention and Rehabilitation of CV Diseases.⁷

Receptive music therapy

Among the various types of therapies in the category of complementary therapies, music therapy seems to be one of the most popular and acceptable interventions.⁸⁻¹⁵ The reason for this is that it is easily accessible and that it can be understood and accepted by healthy people as well as patients.¹⁶ As a young discipline, music therapy could be considered an interdisciplinary or even a transdisciplinary professional field, because it contains elements from several fields and disciplines connected in new ways.¹⁷ According to the definition of the American Association for Music Therapy, music therapy as a complementary therapy is the professional use of music and its elements as an intervention in the medical, educational, and everyday environment, working with individuals, groups, families, or communities seeking to achieve optimal quality of life and improve physical, social, emotional, cognitive, and spiritual health.¹⁸ Research, education, and clinical practice in music therapy are based on professional standards set with regard to the cultural, social, and political environment. Music therapy can be performed as an active form of music therapy, in which music is created together with the client, or as receptive music therapy, in which, depending on the client's preferences, relaxation music is carefully chosen to help reduce stress and anxiety and facilitate acceptance of new living conditions.¹⁹

Contemporary research on the effects of music on psycho-emotional behavior emphasizes the importance of discovering the interconnections between compositions and stimulated physiological effects, as well as the connection between aes-

ugode²⁰. Glazba se može slušati za rekreaciju kao pozadinska muzika kako bi se korisnici povezali sa zajednicom, tj. sa svojom skupinom. Može se slušati i radi pružanja stimulacije ili pak za umirujući ili opuštajući učinak. Bruscia navodi da su ti razlozi ujedno i potencijalni klinički ciljevi koji se, s obzirom na vrstu receptivnih muzičkih iskustava, mogu postaviti klijentu²¹. Važno je uzeti u obzir funkciju, vrstu i glasnoću na kojoj bi se glazba trebala slušati da pobudi najbolje odgovore i privuče pozornost i interes. Snimljena muzika koja se upotrebljuje za receptivna muzikoterapijska iskustva, ima posebnu vrijednost i može se primjenjivati u okviru muzikoterapije za opuštanje, za pozornost i postizanje svjesnosti svakoga pojedinog klijenta ili skupine klijenata. Snimljeni repertoar može se uključiti u terapijske seanse za širok spektar klijenata u grupnim i individualnim sesijama. Različiti stilovi i žanrovi glazbe u rasponu od rane klasike do dvadesetog stoljeća, narodne tradicijske glazbe do popularne, od opere do mjuzikla pružaju bogat izvor iskustava u terapijskom radu²². Receptivna muzikoterapija obuhvaća tehnike u kojima korisnik slušanjem prima glazbeno iskustvo, za razliku od aktivnoga stvaranja glazbe. Većina odraslih klijenata ima iskustvo slušanja različitih žanrova i stilova prema vlastitim preferencijama i pamti osjećaj koji se pojavio pri slušanju određene muzike²³, pa je stoga pravilan odabir od iznimne važnosti. U literaturi o istraživanjima u muzikoterapiji utvrđeno je da je najučinkovitija glazba za uporabu onaj glazbeni stil i žanr koje poznaje i preferira sam korisnik. Glazbeni se program odnosi na listu skladbi koja je u skladu sa sklonostima korisnika, a osobito s njegovim prethodnim glazbenim iskustvima i emocionalnim atributima koje pridaje određenoj skladbi, umjetniku ili instrumentu. Muzikoterapeut iz definiranog popisa skladbi u muzikoterapijsku intervenciju uključuje samo onu glazbu koja, prema svojim elementima (tempo, ritam, dinamika, harmonija...), može imati pozitivan učinak na postavljene ciljeve²³. Pokatkad, međutim, terapeut mora napraviti izbor bez poznavanja preferencija klijenta i u tom se slučaju mora oslanjati na pretpostavke o glazbenim odabirima za koje je utvrđeno da su učinkoviti. Sustavni pregled radova o učinku glazbe na stres i anksioznost pokazuje da slušanje glazbe može najefikasnije djelovati na stupanj anksioznosti u ljudi ako im se ponudi odabir glazbenog sadržaja prema njihovim sklonostima. Najučinkovitija glazba za opuštanje održava stabilan puls, mirnog je raspoloženja i predvidljiva je. Postoje male promjene u dinamici jer je svrha glazbe pojačati duboko opuštanje tijela²².

Samo osposobljeni muzikoterapeut kao dio multidisciplinarnog tima može voditi muzikoterapijsku intervenciju u svrhu postizanja terapijskog cilja: obnavljanja, održavanja i/ili poboljšanja bolesnikova mentalnog i tjelesnog zdravlja. Prema uputama muzikoterapeuta, u terapijskom okruženju, primjena je glazbe sustavna i svrha joj je postizanje poželjnih promjena u ponašanju¹⁶.

Pregled istraživanja muzikoterapijskih intervencija u kardiologiji

Suvremena medicina zdravlje definira kao stanje čovjekova potpunog tjelesnog, mentalnog i socijalnog blagostanja. Holistički pristup objašnjava zdravlje kao ravnotežu čovjekova tjelesnog, mentalnog, emotivnog i duhovnog stanja, a svrha je potaknuti procese unutar samog tijela za borbu protiv bolesti²⁴.

thetic pleasure and feelings of comfort.²⁰ Music can be listened to for recreational purposes as background music in order for clients to connect with the community or with the members from the group. It can also be listened to provide stimulation or to produce a calming or relaxing effect. Bruscia states that these reasons are also potential clinical goals that, given the type of receptive musical experience, can be set for the client.²¹ It is important to consider the function of the music, the musical form, and the volume at which the music should be listened to in order to elicit the optimal responses and to capture the attention and interest of clients. Recorded music used for receptive music therapy experiences has a special value and can be used in music therapy to facilitate relaxation and attention and to achieve awareness of each client or group of clients. The recorded music repertoire can be included in therapy sessions for a wide range of clients in group and individual sessions. Different styles and genres of music, ranging from early classical to twentieth-century music, folk traditional music to popular music, from opera to musicals, provide a rich source of experience in therapeutic work.²² Receptive music therapy encompasses techniques in which the client receives a musical experience by listening, as opposed to actively making music. Most adult clients have previously had the experience of listening to different music genres and styles according to their preferences and remember the feelings that arose due to listening to a particular music piece,²³ so the choice of music is extremely important. Research on music therapy has found that the most effective music includes the music style and genre that are known and preferred by the client himself. A music program refers to a list of compositions that are consistent with the client's preferences, and in particular with their previous musical experiences and emotional attributes that they attach to a particular composition, artist, or instrument. From this predefined list of compositions, the music therapist only includes music in the music therapy intervention which, according to its elements (tempo, rhythm, dynamics, harmony etc.), can have a positive effect on the goals that have been set.²³ Sometimes, however, the therapist has to choose without knowing the client's preferences, which is when one has to rely on assumptions about musical choices that are effective. A systematic review on the effects of music on stress and anxiety showed that listening to music can most effectively reduce the anxiety level in people if they are offered a choice of music content according to their preferences. The most effective relaxation music has a stable pulse and is calming and predictable. There are slight changes in dynamics, as the purpose of music is to enhance the deep relaxation of the body.²²

Only a trained music therapist as a part of a multidisciplinary team can conduct music therapy treatment to achieve the therapeutic goal: to restore, maintain and/or improve the mental and physical health of the patient. According to the guidelines of the music therapist, the application of music in the therapeutic environment is systematic and aims to achieve desirable changes in behavior.¹⁶

A review of research on music therapy interventions in cardiology

Contemporary medicine defines health as a state of complete physical, mental, and social well-being of a person. This holistic approach explains health as a balance of a person's physical, mental, emotional, and spiritual state, and the goal is to stimulate processes within the body to fight disease.²⁴

Pomak u funkcioniranju i modusu kroničnoga stresa prema modusu opuštenosti može utjecati na brojne reakcije u tijelu kao što su povećanje proizvodnje stanica za aktiviranje obrambenog sustava te hormonalne i psihološke promjene²⁵. Terapije koje se primjenjuju za opuštanje dijele ista obilježja, a najvažnije su opuštanje mišića, smanjenje arterijskoga tlaka te reguliranje disanja. Prema Nilsson, a kako navode Katusić *i sur.*^{5,23}, jedna od komponenata KV rehabilitacijskog programa svakako bi trebala biti i receptivna muzikoterapija, intervencija koja može pomoći bolesnicima da osvješćivanjem glazbe koju slušaju sami djeluju na opuštanje svojega tijela. Intervencija receptivnom muzikoterapijom povezana je s poboljšanjem bolesnikova psihološkog statusa, manjom psihofiziološkom i krvožilnom reaktivnošću i manjim prirastom beta-endorfina pod emocionalnim stresom²⁶.

Mogući učinci receptivne muzikoterapije u rehabilitaciji odnose se na postizanje smanjenja stresa u pojedinca i postizanja njegove opće dobrobiti. Primjena muzikoterapije tijekom rehabilitacije u KV bolesnika usmjerena je prije svega na poboljšanje raspoloženja, ublažavanje i smanjivanje straha i tjeskobe^{3,27}.

Dobrobit primjene receptivne muzikoterapije kao oblika komplementarne terapije u procesu rehabilitacije kardiovaskularnih bolesnika opisana je u nekolicini radova. Mandel *i sur.* u istraživanjima koja se proveli Murrock, 2002. te Emery, Hsiao, Hill i Frid, 2003. godine opisuju učinak dobre kombinacije slušanja glazbe i fizioterapijskog programa vježbanja na poboljšanje kognitivne performanse i poboljšano raspoloženje u bolesnika u programu kardiovaskularne rehabilitacije³, a Okada *i sur.* 2009. opisuju da je opuštajući učinak glazbe povezan s povećanim oslobađanjem plazme oksitocina i smanjenjem razine plazme citokina i kateholamina²⁸. Bradt *i sur.* 2013. izvještavaju da slušanje glazbe može imati i blagotvorno djelovanje na osobe s KV bolestima jer ono smanjuje anksioznost, sistolički i dijastolički tlak i frekvenciju nakon hospitalizacije zbog infarkta miokarda²⁹.

Clark *i sur.* 2016. izvještavaju o obilježjima glazbene preferencije i o percepciji glazbe tijekom fizioterapijskoga programa vježbanja. Ispitivanje je provedeno u 27 starijih odraslih ispitanika³⁰. Svrha je bila otkriti osnovna, zajednička obilježja odabrane muzike primjenom *Strukturalnog modela muzičke analize* i analizirati subjektivni doživljaj glazbe. Prevladavajuća obilježja glazbe koju su odabrali sudionici uključivala su dvodobnu mjeru, dosljedan ritam, dursku ljestvicu, zaobljene melodijske linije, legato artikulaciju, predvidljive harmonije, promjenjivu glasnoću te epizode napetosti s odgođenim rješavanjem. Nije bilo prevladavajućeg tempa, a izbor glazbenih komada kretao se od sporih do srednje brzih i brzih. Iz tematske analize intervju sa sudionicima proizašle su četiri teme: psihoemocionalni odgovori, fizički odgovori, utjecaj na ponašanje tijekom vježbi i negativno iskustvo. Nalazi su u skladu s teorijom i istraživanjima koja objašnjavaju utjecaje slušanja glazbe na fiziološko uzbuđenje i subjektivno iskustvo tijekom vježbanja. Usto, u starijih odraslih osoba sa srčanim bolestima holistički pristup odabiru glazbe, uzimajući u obzir opću dobrobit i pitanja prilagodbe, umjesto pukog izvođenja vježbi, može poboljšati dugoročne promjene načina života i uskladiti se sa smjernicama za provođenje tjelesne aktivnosti.

Za razliku od Clarka koji je ispitivao obilježja glazbene preferencije i percepciju glazbe tijekom fizioterapijskog programa vježbanja, Van Dyck *i sur.* zanimao je utjecaj tempa, kao

The shift from the functioning and mode of chronic stress to the mode of relaxed alertness can affect several reactions in the body such as increased production of cells to activate the defense system and hormonal and psychological changes.²⁵ Therapies aimed at a relaxed state share the same features, the most important being muscle relaxation, lowering blood pressure, and regulating breathing. According to Nilsson, and as stated by Katusić *et al.*^{5,23} receptive music therapy should certainly be one of the components of the CV rehabilitation program, as an intervention that can help patients to relax by raising awareness of the music they listen to. Receptive music therapy is associated with improvement in the psychological state of patients, decreased psychophysiological and vascular reactivity, and a smaller increase of beta-endorphins under emotional stress.²⁶

The possible effects of receptive music therapy in rehabilitation are related to stress reduction and achievement of general well-being. The application of music therapy during rehabilitation in CV patients is primarily aimed at improving mood as well as alleviating and reducing fear and anxiety.^{3,27}

The benefit of using receptive music therapy as a form of complementary therapy in the process of rehabilitation of CV patients has been described in several papers. Mandel *et al.*, in studies conducted by Murrock, 2002, and Emery, Hsiao, Hill, and Frid, 2003, describes the effect of a good combination of listening to music and a physiotherapy exercise program on improving cognitive performance and improved mood in patients involved in a CV rehabilitation program,³ and in 2009 Okada *et al.* described that the relaxing effect of music is associated with increased plasma release of oxytocin and decreased plasma levels of cytokines and catecholamines.²⁸ In 2013, Bradt *et al.* reported that listening to music can also have a beneficial effect on people with CV diseases because listening to music reduces anxiety, systolic and diastolic pressure, and frequency of myocardial infarction after hospitalization.²⁹

In 2016, Clark *et al.* reported on the characteristics of musical preference and music perception during a physiotherapy exercise program. The study was conducted on 27 elderly adults.³⁰ The aim was to discover the basic, common characteristics of selected music using the Structural Model of Music Analysis and to analyze the subjective experience of music. The predominant characteristics of the music selected by the participants included a duple meter (two beats per measure), consistent rhythm, major scale, rounded melodic lines, legato articulation, predictable harmonies, variable volume, and episodes of tension with a delayed solution. There was no prevailing tempo, and the selection of music pieces ranged from slow to medium-fast and fast. Four topics emerged from the thematic analysis of the interviews with the participants: psycho-emotional responses, physical responses, influence on behavior during exercises, and negative experience. The findings were consistent with theory and research explaining the effects of listening to music on physiological arousal and subjective experiences during exercise. Additionally, a holistic approach to music selection in elderly adults with heart disease that takes into account general well-being and adjustment issues, rather than simply performing exercises, can improve long-term lifestyle changes and align with guidelines for physical activity.

Unlike Clark, who examined the characteristics of musical preference and perception of music during a physiotherapy exercise program, Van Dyck *et al.* were interested in the influ-

elementa glazbe, na broj otkucaja srca pa je 2017. izvjestio o rezultatima ispitivanja. U 32 ispitanika koja su sudjelovala u istraživanju izmjeren je puls u stanju mirovanja, a zatim im je puštena ambijentalna, instrumentalna glazba čiji je tempo bio podudaran s brzinom otkucaja njihova srca. Nakon što su ispitanici nekoliko puta slušali istu glazbu čiji je tempo bio brži ili sporiji u odnosu prema prvom slušanju, nije ustanovljen utjecaj promjene tempa (ni pri ubrzanju ni pri usporenju) na promjenu brzine otkucaja srca. Testovi su pokazali znatno povećanje brzine otkucaja srca za vrijeme slušanja glazbe u usporedbi s tišinom. Može se zaključiti da se pri pasivnom slušanju glazbe pojavljuje uzbuđenje koje se odražava na broj otkucaja srca. Ti su rezultati važan doprinos načinu uporabe glazbe u svakodnevnim aktivnostima³¹.

Ivanuša *i sur.* izvještavaju da su u razdoblju od lipnja 2017. do listopada 2018. u Poliklinici za prevenciju kardiovaskularnih bolesti i rehabilitaciju u Zagrebu u ambulatnoj kardiovaskularnoj rehabilitaciji primijenili receptivnu muzikoterapiju u 17 bolesnika. Rezultati samoprocjene zdravstvenoga stanja na Bolničkoj ljestvici za anksioznost i depresiju (*Hospital Anxiety and Depression Scale*, HADS) nakon završetka programa pokazuju da je liječenje postupkom receptivne muzikoterapije u bolesnika uključenih u program dodatno pridonijelo smanjenju anksioznosti i depresivnosti³².

Godinu dana poslije, dakle, 2019. godine, Bando *i sur.* opisuju učinke muzikoterapije kao komplementarne terapije u okviru Odjela integrativne medicine u Shikoku u Japanu. Oni izvještavaju o dobiti muzikoterapije pri fizioterapijskom programu vježbanja. Muzika ima dvostruki učinak, stimulira opuštenost i smanjuje napetost, što izravno utječe na aktivnost parasimpatičkoga živčanog sustava. Pratili su broj otkucaja srca prije, tijekom i nakon vježbanja te zaključili da su ispitanici koji su tijekom vježbanja slušali glazbu, odabranu u dogovoru s muzikoterapeutom, imali pojačanu parasimpatičku aktivnost koja se reaktivirala i nakon vježbanja. Uočena je povezanost glazbe s aktivnostima autonomnog sustava nakon vježbanja¹⁶.

Zaključak

Suvremeni je pristup zdravlju multidisciplinarni i transdisciplinarni, a provode ga osposobljeni stručnjaci iz različitih područja u svrhu postizanja dobiti i blagostanja čovjeka i cijele društvene zajednice. Kao dio multidisciplinarnog tima u programu kardiovaskularne rehabilitacije trebao bi biti i muzikoterapeut koji pomno i stručno bira glazbu za opuštanje koja pomaže bolesniku u smanjenju stresa i anksioznosti, kao i u lakšem prihvaćanju novonastalih životnih uvjeta, prati tijek oporavka bolesnika i evidentira nastale promjene. Regulirano emocionalno stanje koje se očituje u aktivnosti autonomnoga živčanog sustava utječe na cjelokupan opravak pri rehabilitaciji i stvara u KV bolesnika bolju sliku o samome sebi. Receptivnom muzikoterapijom kao planskom intervencijom s čvrsto zacrtanim rehabilitacijskim ciljevima moguće je skratiti vrijeme oporavka te trajno utjecati na poboljšanje raspoloženja bolesnika. U sklopu programa KV rehabilitacije potrebno je provesti daljnja istraživanja s većim brojem KV bolesnika, ispitati optimalnu učestalost provođenja muzikoterapijskoga tretmana, njegovo trajanje te detaljnije razraditi skalu osobne glazbene preferencije i skalu osobne percepcije glazbe.

ence that tempo, as an element of music, has on the heart rate. The 32 subjects who participated in the study had their resting heart rate measured and later listened to ambient, instrumental music with a tempo matching their heart rate. After listening to the same music several times with the tempo being faster or slower from the tempo during the first instance, no connection was found between the change in tempo with regard to the change in heart rate. Research showed a significant increase in heart rate while listening to music compared with silence. It can be concluded that excitement is created during listening to music, which is reflected in the heart rate. These results are an important contribution to the methods of music application in everyday activities.³¹

Ivanuša *et al.* reported that they applied receptive music therapy in the period from June 2017 to October 2018 in outpatient CV rehabilitation for 17 patients at the Institute for Cardiovascular Prevention and Rehabilitation in Zagreb. The results of the health self-assessment on the Hospital Anxiety and Depression Scale at the end of the program indicated that treatment with receptive music therapy contributed to the reduction of anxiety and depression symptoms in patients.³²

A year later in 2019, Bando *et al.* described the effects of music therapy as a complementary therapy at the Shikoku Division of Integrative Medicine in Japan. They reported on the benefits of music therapy during a physiotherapy exercise program. Music has a double effect, stimulating relaxation and reducing tension, which directly affects the activity of the parasympathetic nervous system. They monitored heart rate before, during, and after exercise. They concluded that subjects who listened to music during exercise, selected in consultation with a music therapist, had increased parasympathetic activity that was reactivated even after exercise. A connection between music and the activity of the autonomic system after exercise was observed.¹⁶

Conclusion

The contemporary approach to health is multidisciplinary and transdisciplinary, and it is implemented by trained professionals from various fields to achieve the well-being of the individual and the entire community. A music therapist should be a team member of a multidisciplinary team in the CV rehabilitation program, with the role of carefully and professionally selecting music for relaxation that helps the patient in reducing stress and anxiety as well as acceptance of new living conditions, monitoring the patient's recovery, and recording changes. The regulated emotional state that manifests in the activity of the autonomic nervous system affects the overall recovery during rehabilitation and creates a better self-image in CV patients. Receptive music therapy as a planned intervention with precisely set rehabilitation goals can shorten the recovery period and permanently influence the improvement of patient moods. As part of the CV rehabilitation program, it is necessary to conduct further research with a larger number of CV patients to investigate the optimal frequency of music therapy treatment and its duration, and to develop and determine scales for personal musical preference and personal perception of music.

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