

NAZIV DISERTACIJE: Djelovanje konzervativnih terapijskih procedura na artrozu koljena osoba treće životne dobi

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Datum odbrane: 23.05.2016.

DOI: <https://doi.org/10.17532/DD.2016.09>



SAŽETAK

Uvod: Artroze su degenerativna oboljenja zglobova progresivnog karaktera, ujedno jedno od najčešćih oboljenja u ortopediji. Oboljenje prvo zahvata hrskavicu zglobova, potom koštane rubove zglobnih tijela, a zatim i zglobnu ovojnicu. Artroze predstavljaju javno zdravstveni i medicinski problem. Medicinski problem su zbog toga što im uzrok još nije poznat, a javno zdravstveni zbog činjenice da artroza ima mnogo, da se u industrijski i ekonomski razvijenim zemljama pojavljuju u sve većem broju, da najteže od njih pogađaju ljude treće životne dobi, da su progresivne u svom toku i s vremenom uzrokuju sve veća oštećenja organa za kretanje.

Hipoteze istraživanja: Radne hipoteze su pretpostavile da kombinovani tretman fizikalne terapije i rekreativne fizičke aktivnosti daje dobre rezultate u smanjenju bola osoba treće životne dobi s artrozom koljena, da kombinovani tretman fizikalne terapije i kineziterapije daje dobre rezultate u smanjenju bola osoba treće životne dobi s artrozom koljena, kao i da sumirani efekat kombinovanog tretmana poboljšava aktivnosti svakodnevnog života osoba treće životne dobi sa artrozom koljena, a nulte hipoteze su negirale ove pretpostavke.

Ciljevi istraživanja: Utvrditi razliku u aktivnostima svakodnevnog života osoba treće životne dobi koje imaju artrozu koljena u odnosu na vrstu primjenjene procedure: fizikalne terapije, rekreativne fizičke aktivnosti, kombinovane fizikalne terapije sa rekreativnom fizičkom aktivnosti i kombinovane fizikalne terapije sa kineziterapijskim procedurama. Komparirati obim pokretljivosti koljenog zgloba osoba treće životne dobi prije i nakon primjenjenih procedura. Izračunati indeks procjene boli koljenog zgloba prije i nakon primjenjenih procedura.

Ispitanici i metode istraživanja: Prospektivna studija je obuhvatila 300 ispitanika treće životne dobi, koji su podijeljeni u četiri grupe u odnosu na tretman artroze koljena. U studiji je korišten presječni metod istraživanja gdje su se podaci prikupili odgovarajućim instrumentima istraživanja, anketni upitnik i antropometrijska mjerenja. Istraživanje je obavljeno u periodu od 01.10.2014-10.12.2015. godine, u DZ Kantona Sarajevo, „Centar za zdravo starenje“ Sarajevo i CMR Fojnica — Reumal. Instrumenti koji su se koristili u istraživanju su: "Modificirani anketni upitnik „Knee injury and Osteoarthritis Outcome Score (KOOS)“. Modifikovana skraćena verzija McGill-ov upitnika o boli. Rezultati istraživanja: Analizom goniometrijskih mjerenja na početku i na kraju istraživanja ustanovljena je učestalija hipotrofija i ograničen pokret fleksije kod ispitanika skupine IV, dok se učestalost ograničenja pokreta ekstenzije nije statistički značajno razlikovao u odnosu na ispitivane grupe i period mjerenja. U grupi I na početku istraživanja ustanovljena je statistički značajna pozitivna korelacija između vrijednosti BMI i težine simptoma i elemenata KOOS upitnika. Ispitanici koji su imali veći BMI imali su lošije karakteristike života i jači intenzitet bola, $r=0.347$; $p=0.014$. Također je ustanovljena statistički značajna pozitivna korelacija između intenziteta VAS skale i intenziteta elemenata KOOS upitnika, $r=0.670$; $p=0.001$. Najveći indeks McGillovog upitnika na početku istraživanja imali su ispitanici grupe IV sa prosječnom vrijednošću od 15.18 ± 6.63 (1-32), da bi se na kraju istraživanja ta vrijednost statistički značajno smanjila i iznosila 10.8 ± 5.55 (2-31), $p=0.029$. Ispitanici grupe I su imali vrijednost McGillovog indeksa od 11.72 ± 7.27 (2-28) na početku istraživanja, da bi se na kraju istraživanja ta vrijednost smanjila na 10.26 ± 6.58 (2-28), što je statistički značajna razlika, $p=0.041$. Najmanju vrijednostu indeksa su imali ispitanici grupe II, i to 4.78 ± 2.75 na početku istraživanja i 4.32 ± 2.51 na kraju istraživanja što nije statistički značajno. Ispitanici grupe III su na početku istraživanja imali indeks od 8.60 ± 6.22 , a na kraju istraživanja je došlo do poboljšanja koje nije statistički značajno i iznosi 7.76 ± 6.61 .

Zaključci: Nakon provedenog istraživanja najveće smanjenje bola su imali ispitanici grupe IV (-7,35), a zatim ispitanici grupe I (-3,76). Kod ispitanika grupe III smanjenje je bilo za -2,86, a najmanje smanjenje bola su imali ispitanici grupe II od -0,28. U grupi I došlo je do statistički značajnog poboljšanja te je intenzitet umjerenih boli smanjen nakon provedene terapije sa 3.4 na 2.9. U grupi II nije došlo do promjene intenziteta bola, te je zadržana umjerena bol kod ispitanika nakon provedene terapije. U grupi III je došlo do blagog poboljšanja bola nakon terapije od 3.6 (jaka bol) na 3.3 (umjerena bola). U grupi IV došlo je do najboljeg poboljšanja, te se su ispitanici na kraju istraživanja imali blagu bol u koljenima. Ključne riječi: artroza koljena, bol, treća životna dob, kvalitet života.

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DISSERTATION TITLE:**Author:** Samir Bojičić**Menthor:** Prof. dr. Dijana Avdić**Date of defence:** 23. May 2016**DOI:** <https://doi.org/10.17532/DD.2016.09>**ABSTRACT**

Introduction: Arthrosis is degenerative joint disease with progressive character and also one of the most common illness in orthopedics. This disease first affects the joints cartilage, then the osseous joints edges, and ultimately joints involucres. Arthrosis represent medical and public health problem. Medical character of those problems is that the cause is unknown, and public health character of the problem is due to the fact that there are many types of arthrosis, that arthrosis is increasing their presence in the industrial and developed countries, mostly affect people of the third age, and ultimately, arthrosis are progressive in their development and eventually can cause increasing damage to the body and movement. **Hypotheses:** Working hypotheses have assumed that the combined treatment of physical therapy and recreational physical activity has shown good results in reducing the pain of the elderly with knee arthrosis, that the combined treatment of physical therapy and kinesitherapy gives good results in reducing the pain of the elderly with knee arthrosis, and also have showed that summed up the effect of combined treatment improves activities of everyday life of the elderly people with knee arthrosis. **Null hypotheses** have negated the abovementioned assumptions. **Research objectives:** To identify the difference between the everyday life activities of elderly people with knee arthrosis and the applied procedures: physical therapy, recreational physical activity, combined with physical therapy and recreational physical activity and physical therapy combined with kinesitherapeutic procedures. To compare the knee joint mobility range of the people in the third age before and after applied procedures. To calculate evaluation index of the knee joints pain before and after the applied procedures. **Subjects and Methods:** Prospective study has involved 300 patients in the third age, who have been divided into four groups for the treatment of knee arthrosis. The study has used the cross-sectional research method where the data has been collected by the relevant research instruments, a questionnaire and anthropometric measurements. The survey was conducted during the period 01.10.2014-10.12.2015., in the DZ Kanton Sarajevo "Centar za zdravo starenje", Sarajevo and CMR Fojnica -Reumal. The instruments that have been used in the study are: a modified questionnaire: "Knee injury and Osteoarthritis Outcome Score (KOOS)", and modified abbreviated version of McGill's questionnaire about pain. **Results of the research:** Analysis of goniometric measurements at the beginning and end of the study revealed more frequent hypotrophy and limited flexion with the Group IV of examinees, while the frequency of the limited movement extension did not have statistically significant difference related to the examined groups and the period of measurements. In the Group I, at the beginning of the research, has been established statistically significant positive correlation between the value of BMI, severity of symptoms, and the elements of KOOS questionnaire. Respondents who had a higher BMI, had lower quality of life and greater pain intensity, $r = 0.347$; $p = 0.014$. A significant positive correlation was also found between the intensity of the VAS scale and the intensity of the elements of KOOS questionnaire, $r = 0.670$; $p = 0.001$. The highest index of the McGill's questionnaire at the beginning of the research had the examinees of the IV Group, with the average value of $15:18 \pm 6.63$ (1-32), however at the end of the research, that value have had statistically significant decrease and was 10.8 ± 5.55 (2-31), $p = 0.029$. Value of the McGill index of the Group I at the beginning of this research was 11.72 ± 7.27 (2-28), but at the end of the study this value decreased to 10.26 ± 6.58 , (2-28), which is statistically significant difference, $p = 0.041$. The examinee Group II had the lowest McGill index and was 4.78 ± 2.75 at baseline, and $4:32 \pm 2:51$ at the end of the study, which was not statistically significant. The value of the index at patients in the Group III at the beginning of the study was 8.60 ± 6.22 , and at the end of the study there was an improvement which was not statistically significant and takes value 7.76 ± 6.61 . **Conclusions:** After the research was conducted, the highest decrease of pain intensity had patients of the Group IV (-7,35), followed by the patients of the Group I (-3,76). The pain intensity decrease at patients of the Group III valued -2,86, and the least decrease of the pain intensity was noted with patients of the Group II -0,28. Group I had statistically significant improvement, and the intensity of the moderate pain was decreased after applied therapy, from 3,4 to 2,9. Group II did not have the change in the intensity of pain, and after the therapy, the pain intensity stayed at the same level. Group II had slight pain intensity decrease from 3,6 (severe pain) to 3,3 (moderate pain). Group IV had the best results after the therapy, and the patients felt mild pain in their knees at the end of the research.

Keywords: Knee arthrosis, pain, the third age, the quality of life.