Terapija s transkutano električno živčno stimulacijo pri pacientki z izzvano vulvodinijo – poročilo o primeru

Viš. pred. mag. **Darija Šćepanović**, viš. fiziot.[1], asist. **Gabrijela Simetinger**, dr. med., spec. gin. in porod., FECSM[2]

[1]Ginekološka klinika, Univerzitetni klinični center Ljubljana, Slovenija; [2]Splošna bolnišnica Novo mesto, Slovenija

Korespondenca/Correspondence: Darija Šćepanović; e-pošta: darija.scepanovic@kclj.si

Uvod: Vulvodinija je definirana kot neugodje, najpogosteje razloženo kot pekoča bolečina v predelu vulve, ki nastane v odsotnosti ustreznih vidnih sprememb ali specifičnih klinično spoznavnih nevroloških motenj (1). Vulvodinija se deli glede na anatomsko mesto bolečine in glede na to, ali je bolečina izzvana ali neizzvana. Etiologija vulvodinije je najpogosteje primarno razložena z biomedicinskimi dejavniki, spremembami v imunskem sistemu in iatrogenimi dejavniki. Tudi različni psihološki in spolni dejavniki lahko vplivajo na stanje ali ga celo izzovejo. Za obravnavo vulvodinije je želen timski pristop, ki vključuje ginekologa in strokovnjake s področij psihoseksualne medicine, fizioterapije in obravnave bolečine (1). Pri bolnicah z lokalno izzvano vulvodinijo, odporno na druge oblike zdravljenja pride v poštev vulvektomija. Namen poročila o primeru je prikazati primer pacientke z izzvano vulvodinijo, pri kateri je bila zaradi neodziva na zdravila indicirana vulvektomija. Da bi se temu izognili, smo se odločili poskusiti terapijo s transkutano električno živčno stimulacijo (TENS). Pacientka je pisno privolila v raziskavo. **Prikaz primera:** Petintridesetletna pacientka se je že pri 18 letih starosti zdravila zaradi depresije. Ob zamenjavi službe po drugem porodu so se ji pojavili napadi tesnobnosti, povišan krvni pritisk, tiščanje v prsih in alergija. Začela je terapijo z anksiolitikom in beta blokatorjem. Opravila je alergična testiranja, na katerih je bila dokazana alergija na nekatere snovi. Urološka anamneza je bila brez posebnosti. Pred enim letom je prišla na pregled zaradi srbečice na spolovilu. Pri ginekološkem pregledu so bile vidne petehije po perineju. Terapija z antimikotikom, kortikosteroidom in lokalnim anestetikom je bila neuspešna. Test z vatirano palčko je razkril občutljivost in bolečnost na vestibulumu. Histološka slika biopsije bolečega mesta je ustrezala blažjemu nespecifičnemu kroničnemu vnetju. Pacientki je bil prepovedan vaginalni spolni odnos. Oralni spolni odnos je bil dovoljen. Za oceno uspešnosti terapije s TENS-om sta bila pred zadnjo obravnavo in po njej uporabljena vizualna analogna lestvica in indeks spolne funkcije pri ženskah (2). Stimulacija z vaginalno sondo je bila aplicirana v dveh 15-minutnih intervalih (prvi interval: dolžina dražljaja 50 μs, frekvenca 10 Hz, drugi interval: dolžina dražljaja 100 μs, frekvenca 50 Hz), 20-krat, 2-krat na teden (3). **Rezultati:** Stopnja srbečice, merjena z vizualno analogno lestvico, je bila pred terapijo ocenjena z 10, po terapiji pa z 0. Srbečica je izginila že po prvih dveh terapijah. Pacientka je na indeksu spolne funkcije pred terapijo zbrala 32 točk, ob odpustu pa 91 točk (nad 26 točk ni spolne disfunkcije). **Zaključek:** TENS je enostavna, učinkovita in varna terapija za zdravljenje izzvane vulvodinije.

Ključne besede: vulvodinija, izzvana, biomedicinski dejavniki, transkutana električna živčna stimulacija, timski pristop.

Transcutaneous electrical nerve stimulation in a patient with provoked vulvodynia - a case report

Background: Vulvodynia has been defined as vulvar discomfort, most often described as burning pain, occurring in the absence of relevant findings or a specific clinically identifiable neurologic disorder (1). Vulvodynia is classified according to the localisation of pain in the vulva, whether it is generalised or localised, and whether it arises on provocation of the area or occurs spontaneously. Most commonly it is primarily explained by bio-medical factors, changes in the immune system and iatrogenic factors. However, various psychological, sexual and context related factors have also been documented to contribute to or perhaps elicit the condition. To manage the various components, a team approach may be required, headed by a lead clinician and assisted by experts in psychosexual medicine, physiotherapy, and pain management teams (1). In patients with local provoked vulvodynia refractory to other treatments, surgical excision of the vestibule may be considered. The purpose of this case report is to present the patient whose provoked vulvodynia was refractory to other treatment modes and surgical excision of the vestibule was therefore considered. To avoid surgical treatment, transcutaneous electrical nerve stimulation (TENS) was tried out. The patient consented to participate in the study. **Case description:** A 35-year-old patient had been treated for depression since the age of 18. Since she changed her job after she had given birth to her second child, she started suffering from anxiety, hypertension, chest pressure and allergy. She was treated with anxiolitic and beta blocker. She took allergy tests, which confirmed allergy to a number of different allergens. Her urinary tract function was normal. A year ago she came for a check-up for genital itching. Gynaecological examination revealed petechiae on perineum. Treatment with antimycotic locally and orally, corticosteroid ointment and local anesthetic proved unsuccessful. Cotton swab testing of the vestibulum of the vagina revealed sensitivity and pain. Histological picture of biopsy from the painful area corresponded to changes associated with mild non-specific chronic inflammation. The patient was strongly encouraged to abstain from vaginal intercourse, while oral sex was allowed. Her clinical conditions were assessed by the Female Sexual Function Index questionnaire and the visual analogue scale symptoms assessment at baseline and immediately after completing the 20 treatment sessions on a twice per week basis (2). The stimulation was delivered through a commercially available vaginal probe. Protocol for TENS was 15 minutes of 10 Hz frequency and pulse duration of 50 μs followed by 15 minutes of 50 Hz frequency and pulse duration of 100 μs (3). **Results:** The baseline score of visual analogue scale was 10 and the post-treatment score was 0. The vaginal itching disappeared after only two consecutive treatment sessions with TENS within a period of one week. Female Sexual Function Index score improved from 32 to 91. **Conclusions:** TENS is a simple, effective and safe treatment for the management of provoked vulvodynia.

Keywords: vulvodynia, provoked, bio-medical factors, transcutaneous electrical nerve stimulation, team approach.

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Prisotnost fizioterapije v okviru šol za starše v Sloveniji

Pia Radež, dipl. fiziot.[1], viš. pred. mag. **Darija Šćepanović**, viš. fiziot.[2], **Andrea Backović Juričan**, viš. fiziot., dipl. del. ter., univ. dipl. org.[3]

[1]Zdravstvena fakulteta, Univerza v Ljubljani, Ljubljana, Slovenija, [2]Ginekološka klinika, Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija[3]

Korespondenca/Correspondence: Pia Radež; e-pošta: piaradez@gmail.com

Uvod: Šola za starše je zdravstvenovzgojna oblika dela, ki nosečnice in njihove partnerje pouči o vseh vprašanjih telesnega in duševnega zdravja med nosečnostjo, o kompleksnem dogajanju med nosečnostjo in porodom in o negi novorojenca (1). V Sloveniji je vsem nosečnicam oziroma vsem bodočim staršem zagotovljena možnost udeležbe v šoli za starše (2). To možnost v Sloveniji izkoristi več kot polovica nosečnic (2). Vse šole za starše obravnavajo nosečnost, porod, nego dojenčka, prehrano in dojenje; nekatere vključujejo zobozdravstveno vzgojo, psihološko pripravo na porod in starševstvo, pripravo na družinsko življenje ter informiranje o socialnem varstvu nosečnosti in starševstva ter varnosti v cestnem prometu. Nekatere ponujajo predavanja anestezista in tudi fizioterapevta. Namen raziskave je bil ugotoviti, ali so v šolah za starše po Sloveniji prisotni elementi fizioterapije in, če so prisotni, katere vsebine obravnavajo, koliko časa je namenjeno fizioterapevtskim vsebinam ter katerim priporočilom glede telesne dejavnosti v nosečnosti sledijo. **Metode:** Ankete smo poslali 59 šolam za starše po Sloveniji. Anketo, ki je vsebovala 28 vprašanj, je izpolnjevala oseba, ki vodi fizioterapevtski del oziroma del v šoli za starše, povezan s telesno dejavnostjo. Za analizo podatkov so bile uporabljene deskriptivne statistične metode. **Rezultati:** Vrnjenih je bilo 33 (55,9 %) anket, od katerih je bilo analiziranih 31 (52,5 %). Med anketiranimi, ki vodijo fizioterapevtski del ali del, povezan s telesno dejavnostjo, je največ, in sicer 24 (77,7 %) višjih ali diplomiranih fizioterapevtov. Največ, devet (29,0 %) anketirank/-cev je odgovorilo, da nameni fizioterapevtskemu delu in/ali telesni dejavnosti v okviru šole za starše dve uri. V osmih primerih (25,8 %) pa fizioterapevtske vsebine niso zastopane. Najpogosteje navedene vsebine v fizioterapevtskem delu šole za starše so bile trening mišic medeničnega dna (26 anketirancev (92,9 %)) ter terapevtske vaje za stabilizacijo hrbtenice in medenice ter dihalne in sprostitvene terapevtske vaje (23 anketirancev (82,1 %)). Druge navedene vsebine so bile še opozorila o pravilni mehaniki gibanja, teoretične osnove telesne dejavnosti v nosečnosti, praktična telesna dejavnost v nosečnosti, obravnava izključno zdravih nosečnic, obravnava zdravih nosečnic in nosečnic z različno patologijo. Le trije (10,7 %) anketiranci pa vključujejo vsebine, ki obravnavajo različne vrste patologij v nosečnosti. Več kot polovica (17 (54,8 %)) je navedla, da nimajo organizirane vadbe v nosečnosti. Med anketiranimi jih je 16 (51,6 %) odgovorilo, da so seznanjeni s trenutnimi strokovnimi priporočili za telesno dejavnost v nosečnosti. Enako število anketirank/-cev pa se ni opredelilo za nobeno izmed trenutno veljavnih strokovnih priporočil. **Zaključki:** V večini analiziranih slovenskih šol za starše so prisotne fizioterapevtske vsebine, v katere so po večini vključeni fizioterapevti. Le nekaj fizioterapevtov obravnava nosečnice s patologijo. Čeprav jih več kot polovica meni, da je seznanjena s sodobnimi strokovnimi priporočili za telesno dejavnost v nosečnosti, jih le nekaj sledi tem priporočilom.

Ključne besede: nosečnost, šola za starše, telesna dejavnost, fizioterapija, Slovenija.

The physiotherapy components within the antenatal classes in Slovenia

Background: Antenatal classes are a form of health education which instructs pregnant women and their partners about all physical and mental hygiene issues during pregnancy, the complex events during pregnancy and childbirth and neonatal care (1). In Slovenia, all pregnant women as well as future fathers are provided with opportunity to participate in the antenatal classes (2). More than half of pregnant women in Slovenia take this possibility (2). All antenatal classes address pregnancy, childbirth, infant care, nutrition and breastfeeding; some include also oral health education, psychological preparation for childbirth and parenthood, preparation for family life, information about pregnancy and parenthood social care, and road safety. Several offer lectures by anaesthetists and physiotherapists. The purpose of the study was to determine if and which components of physiotherapy are included in the antenatal classes in Slovenia, how much time is dedicated to physiotherapy contents, and which physical activity recommendations during pregnancy are followed. **Methods:** A questionnaire was distributed to 59 antenatal classes in Slovenia. Surveys, consisting of 28 questions, were completed by professionals responsible for physiotherapy part of the programme or the part associated with physical activity in an antenatal class. Descriptive statistical methods were used for data analysis. **Results:** 31 (52.5%) out of the total 33 (55.9%) completed and returned questionnaires were analysed. The majority of the respondents (24, namely 77.7%) have a higher or a bachelor degree in physiotherapy. Most of the respondents (9, namely 29.0%) devote two hours to physiotherapy components or physical activity within the entire antenatal education programme. Eight of the respondents (25.8%) state that physiotherapy contents are not included in the programme. Physiotherapy components most frequently stated include pelvic floor muscle training (26 respondents, namely 92.9%) and therapeutic exercises for lumbopelvic stabilization, and respiratory and relaxation therapeutic exercises (23 respondents, namely 82.1%). Other physiotherapy components refer to correct body mechanics, theoretical foundations of physical activity during pregnancy, practical physical activity during pregnancy, treatment of healthy pregnant women exclusively, treatment of healthy pregnant women and those with different pathologies. Only three respondents (10.7%) stated contents dealing with different types of pathologies in pregnancy. More than half of the respondents (17, namely 54.8%) stated that they do not have organized exercise classes in pregnancy. A good half of the participants (16, namely 51.6%) are familiar with the current professional recommendations for physical activity in pregnancy. The same number of the respondents has not exercised choice for any of the current professional recommendations. **Conclusions:** The majority of Slovenian antenatal classes encompass physiotherapy components taught by qualified physiotherapists. Only few physiotherapists treat pregnant women with different pathologies. Even though a good half of the respondents claim to be cognisant of the current professional physical activity recommendations during pregnancy, only few follow the proposed recommendations.

Keywords: pregnancy, antenatal classes, physical activity, physiotherapy, Slovenia.

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Simfizioliza po porodu: prevalenca in dejavniki tveganja

Vesna Sila, dipl. fiziot.[1], viš. pred. mag. **Darija Šćepanović**, viš. fiziot.[2], **Lidija Žgur**, dipl. fiziot.[2], dr. **Ivan Verdenik**, univ. dipl. ing.[2]

[1]Fizioterapija Sežana, Sežana, Slovenija; [2]Ginekološka klinika, Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija

Korespondenca/Correspondence: Vesna Sila; e-pošta: vesna.sila@gmail.com

Uvod: Simfizioliza je definirana kot bolečina okrog sramnične zrasti med nosečnostjo in po porodu, s prisotnostjo diastaze ali brez nje (1). Pregled literature je pokazal velik razpon v pogostosti simfiziolize, in sicer od 1 : 300 do 1 : 30.000 (2, 3). Dokazi o možnih dejavnikih tveganja za pojav simfiziolize so neprepričljivi in nekateri tudi nasprotujoči si (4). Namen raziskave je bil oceniti prevalenco simfiziolize po porodu in ugotoviti možne dejavnike tveganja. **Metode:** V retrospektivno raziskavo so bile vključene vse ženske, ki so rodile v slovenskih porodnišnicah v obdobju od januarja 2002 do decembra 2008. V tem obdobju je rodilo 129.557 žensk. Uporabljeni so bili podatki iz Nacionalnega perinatalnega informacijskega sistema Republike Slovenije, ki vsebuje podatke iz porodnega zapisnika. Uporabljene so bile statistične metode Hi-kvadrat za preizkušanje povezanosti opisnih spremenljivk in T-test za preizkušanje razlike med dvema aritmetičnima sredinama. Za oceno neodvisnih dejavnikov tveganja je bila uporabljena multivariatna logistična regresija. **Rezultati:** Prevalenca simfiziolize po porodu, v obdobju do odpusta iz porodnišnice, je bila 0,08 odstotka. Univariatna analiza je pokazala, da so bile ženske s simfiziolizo po porodu statistično pomembno starejše ($p = 0,013$), večkrat noseče ($p = 0,031$) in so večkrat rodile ($p = 0,006$), so imele gestacijski diabetes ($p = 0,001$), plod v glavični vstavi ($p = 0,034$) in instrumentalni vaginalni porod ($p < 0,001$), so dobile analgetična sredstva med porodom ($p < 0,001$), rodile večje novorojence (porodna teža ($p < 0,001$), obseg glavice ($p < 0,001$), dolžina ($p = 0,001$)) in imele velike novorojence glede na gestacijsko starost ($p = 0,032$). Kot statistično pomembni neodvisni dejavniki tveganja za pojav simfiziolize po porodu so se pokazali porodna teža novorojenca > 3500 g (95 % IZ za RO 1,9: 1,1–3,2), obseg glavice novorojenca > 35 cm (95 % IZ za RO 2,1: 1,3–3,6), analgetična sredstva med porodom (95 % IZ za RO 2,2: 1,3–3,7) in gestacijski diabetes (95 % IZ za RO 3,7: 1,7–7,9). **Zaključki:** Simfiziolizo po porodu ima manj kot en odstotek otročnic. Porodna teža in obseg glavice novorojenca, analgetična sredstva med porodom in gestacijski diabetes so se pokazali kot najpomembnejši dejavniki tveganja za pojav simfiziolize po porodu. Rezultati prevalence simfiziolize po porodu nakazujejo potrebo po večji ozaveščenosti zdravstvenih delavcev in večjem strokovnem znanju, ki bi pripomogla k odkrivanju večjega števila žensk s to težavo, k uspešnemu zdravljenju in izboljšanju kakovosti življenja teh žensk.

Ključne besede: simfizioliza, po porodu, prevalenca, dejavniki tveganja, Slovenija.

Symphysiolysis after labour: prevalence and risk factors

Background: Symphysiolysis is defined as pain around the symphysis pubis joint, during pregnancy and after delivery with or without the evidence of pubic separation (1). The reported incidence of symphysiolysis varies from 1 in 300 to 1 in 30.000 deliveries (2, 3). Several risk factors were found to be associated with symphysiolysis (4). The purpose of the study was to assess the prevalence of symphysiolysis after labour and its possible risk factors. **Methods:** A retrospective population-based analysis of all women, who delivered in Slovenian maternity hospitals from January 2002 to December 2008, was performed (n = 129.557). The data were extracted from the computerized national perinatal database which consists of obstetrics and perinatal information, recorded within the period from delivery to discharge from the hospital by an obstetrician. Statistical significance was calculated using x^2 test for difference in qualitative variables and t-test for difference in continuous variables. To evaluate the best independent predictors of symphysiolysis the multivariate logistic regression was used. **Results:** The prevalence of symphysiolysis after labour was 0.08%. Based on univariable analysis, a woman with symphysiolysis is more likely to be an older ($p = 0.013$), multigravida ($p = 0.031$) and multipara ($p = 0.006$), has gestational diabetes ($p = 0.001$), has an infant who was in the vertex presentation ($p = 0.034$) or has had an instrumental delivery ($p < 0.001$), receives analgesics during labour ($p < 0.001$), has a larger infant (birth weight ($p < 0.001$), length ($p = 0.001$), head circumference ($p < 0.001$)) or has a LGA baby (large for gestational age) ($p = 0.032$). Multivariate logistic regression showed the infant birth weight > 3500 g (OR=1.9, 95% CI 1.1-3.2), infant head circumference > 35 cm (OR=2.1, 95% CI 1.3-3.6), analgesics during delivery (OR=2.2, 95% CI 1.3-3.7) and gestational diabetes (OR=3.7, 95% CI 1.7-7.9) are the only statistically significant independent risk factors for symphysiolysis. **Conclusions:** Symphysiolysis after labour is present at less than one percent of women. Infant birth weight, head circumference, analgesics during labour and gestational diabetes are concluded to be the most important risk factors for the symphysiolysis. The results of the prevalence for symphysiolysis after labour showed the need for higher awareness of the health workers and higher professional knowledge, which would help to diagnose a bigger number of women with that problem, to more successful treatment and higher quality of life.

Keywords: symphysiolysis, after labour, prevalence, risk factors, Slovenia.

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Urinska inkontinenca v nosečnosti in po porodu

Anja Oman, dipl. fiziot.[1], viš. pred. mag. **Darija Šćepanović**, viš. fiziot.[2], dr. **Ivan Verdenik**, univ. dipl. ing.[2]

[1]Splošna bolnišnica Jesenice, Slovenija; [2]Ginekološka klinika, Univerzitetni klinični center Ljubljana, Slovenija

Korespondenca/Correspondence: Anja Oman; e-pošta: oman.anja@gmail.com

Uvod: Urinska inkontinenca (UI) je pogost pojav v nosečnosti in po porodu. V literaturi je opisanih veliko dejavnikov tveganja, ki naj bi pripomogli k njenemu nastanku (1, 2, 3, 4). Namen: Ocena prevalence UI v nosečnosti in po porodu ter ugotovitev možnih dejavnikov tveganja za njen nastanek. **Metode:** K raziskavi so bile povabljene vse ženske, ki so rodile septembra 2010 v ljubljanski porodnišnici. 509 prostovoljk (88,5 %) je pisno privolilo v sodelovanje v študiji. Podatki so bili pridobljeni z vprašalnikom. **Rezultati:** UI v nosečnosti je imelo 35,8 % žensk, 4. teden po porodu 19,3 %, 8. teden po porodu 5,9 %, 12. teden po porodu pa je UI imelo le še 2,6 % žensk. Ugotovili smo statistično pomembno povezavo med nastankom UI v zadnji nosečnosti in temi kazalniki: UI pred nosečnostjo ($p < 0,001$), UI v prejšnjih nosečnostih ($p < 0,001$) in povezava z inkontinentno bližnjo sorodnico ($p = 0,017$). Statistično pomembne povezave na vpliv večjega pojava UI v nosečnosti nismo ugotovili za mnogorodnost, večji indeks telesne mase pred nosečnostjo, večjo pridobitev telesne teže med nosečnostjo, večje število plodov, veliko porodno težo otroka, dvigovanje težkih bremen pri delu, pogostost izvajanja treninga mišic medeničnega dna v nosečnosti, starost nosečnice, kajenje, uhajanje blata ali vetrov v nosečnosti ter bolečine v ledvenem delu hrbtenice in/ali medenice v nosečnosti. UI pred nosečnostjo ($p < 0,001$), nizka porodna teža ($p = 0,027$) ter prvi porod ($p = 0,012$) so statistično pomembno vplivali na večji pojav UI po porodu. Vaginalni porod, mnogorodnost, večje število plodov, velika porodna teža otroka, pogostost izvajanja treninga mišic medeničnega dna v nosečnosti, UI v nosečnosti, starost porodnice, epiziotomija, poškodbe porodne poti, instrumentalni porod, povezava z inkontinentno bližnjo sorodnico niso statistično pomembno vplivali na večji pojav UI po porodu. **Zaključki:** Rezultate raziskave so pokazali, da UI pred nosečnostjo, UI v prejšnjih nosečnostih ter povezava z inkontinentno bližnjo sorodnico povezani z večjim pojavom UI v nosečnosti. UI pred nosečnostjo, nizka porodna teža in prvi porod pa so bili povezani z večjim pojavom UI po porodu. V naši raziskavi smo ugotavljali le povezave s posameznimi dejavniki tveganja in nismo preučevali njihovega medsebojnega vpliva pri etiologiji UI. To bi bilo smiselno preučevati v nadaljnjih raziskavah, saj verjetno k nastanku UI v nosečnosti in po porodu bolj kot en sam pripomore več dejavnikov tveganja.

Ključne besede: uhajanje urina, nosečnost, porod, prevalenca, dejavniki tveganja.

Raziskava je nastala v okviru evropske raziskave OB.surve: Project No 2007111 under EU Health Programme 2008-2013 Surveillance system: Occurrence of urinary incontinence in women as a consequence of inefficient or inappropriate obstetric care (Ob.Surve).

Urinary incontinence in pregnancy and postpartum

Background: Urinary incontinence (UI) is a common condition during pregnancy and postpartum. The literature has described many risk factors that may contribute to its occurrence. Purpose: To estimate the prevalence of UI during pregnancy and postpartum and its possible risk factors. **Methods:** All women who gave birth at Department of Obstetrics and Gynecologic at University Medical Center Ljubljana in September 2010 were asked to participate in the study. 509 volunteers (88.5%) gave written consent to participate in the study. The data was gathered by means of a questionnaire. **Results:** The prevalence of UI during the last pregnacy was 35.8%, 4^{th} week postpartum was 19.3%, 8^{th} week 5.9% and 12^{th} week postpartum was only 2.6%. UI during pregnancy was significantly associated with UI before pregnancy ($p < 0.001$), UI in previous pregnancies ($p < 0,001$), and the connection with the incontinent female close relatives ($p = 0.017$). The number of previous deliveries, higher body mass index before pregnancy, greater weight gain during pregnacy, number of fetuses, birth weight, heavy lifting at work, frequency of pelvic floor muscle training during pregnancy, age, smoking, anal and flatal incontinence during pregnancy, and pain in lumbar spine and/or pelvis during pregnacy were not statistically shown to be significant in the UI occurrence during pregnancy. UI before pregnancy ($p < 0.001$), first delivery ($p = 0.012$), and lower birth weight ($p = 0.027$) were significantly associated with postpartum UI. Vaginal delivery, number of previous deliveries, number of fetuses, birth weight, frequency of pelvic floor muscle training during pregnancy, UI during pregnancy, age, episiotomy, birth trauma, instrumental delivery, and the connection with the incontinent female close relatives were statistically not confirmed as significant for the UI occurrence postpartum. **Conclusions:** Based on these results, UI before pregnancy, UI in previous pregnancies, and the connection with the incontinent female close relatives were significantly associated with UI during pregnancy. UI before pregnancy, lower birth weight, and first birth are contributed to the increased occurrence of postpartum UI. The study investigated only the independent risk factors and it did not investigate the correlations among these risk factors in the etiology of UI. For the further research it is suggested to study correlations among risk factors, because probably more than one risk factor is responsible for occurrence of UI.

Keywords: urine leakage, pregnancy, childbirth, prevalence, risk factors.

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Konservativno zdravljenje urinske inkontinence po radikalni prostatektomiji – pregled literature

Irena Zabukovec, dipl. fiziot.[1], viš. pred. mag. **Darija Šćepanović**, viš. fiziot.[2]

[1]Univerzitetni rehabilitacijski inštitut Republike Slovenije – Soča, Ljubljana, Slovenija; [2]Ginekološka klinika, Univerzitetni klinični center Ljubljana, Ljubljana, Slovenija

Korespondenca/Correspondence: Irena Zabukovec, e-pošta: irena.zabukovec@gmail.com

Uvod: Rak prostate je v razvitem svetu v porastu, zato je velik medicinski in ekonomski problem (1). Posledice zdravljenja raka prostate po večini prinašajo komplikacije, kot sta urinska inkontinenca in impotenca, ki posledično zmanjšata kakovost življenja posameznika (2). Prevalenca urinske inkontinence en mesec po radikalni prostatektomiji je visoka in se giblje med 6 in 87 odstotki (3). Konservativno zdravljenje naj bi bila metoda prvega izbora za zdravljenje urinske inkontinence po kirurškem posegu raka prostate (4). Namen raziskave je bil na podlagi domače in tuje strokovne in znanstvene literature predstaviti rezultate raziskav, katerih namen je bil ugotoviti učinkovitost konservativnega zdravljenja urinske inkontinence po radikalni prostatektomiji. **Metode:** Iskanje literature je potekalo po računalniških bazah PubMed, PubMed, Cinahl, Embase, Index Medicus in v registru študij Cochrane Library. Iskanje je bilo omejeno na besedila v angleškem in slovenskem jeziku in na časovno obdobje od leta 1994 do leta 2011. **Rezultati:** V pregled literature je bilo glede na vključitvene in izključitvene kriterije vključenih 17 randomiziranih kontroliranih raziskav. Raziskave so preučevale učinkovitost treninga mišic medeničnega dna, biološke povratne zveze, električne stimulacije in magnetne stimulacije na urinsko inkontinenco po radikalni prostatektomiji. Vse preučevane metode so se izkazale kot učinkovite za zdravljenje urinske inkontinence po prostatektomiji. Trening mišic medeničnega dna je v primerjavi z drugimi metodami dal statistično pomembno boljše rezultate. Dodatek biološke povratne zveze k treningu mišic medeničnega dna ni imel dodatnega učinka v primerjavi s samostojnim treningom mišic medeničnega dna. Podobno tudi dodajanje električne stimulacije k treningu mišic medeničnega dna ni dalo boljših rezultatov zdravljenja. Dokazi o učinkovitosti magnetne stimulacije so omejeni. **Zaključki:** Urinska inkontinenca pušča posledice na posameznikovi socialni in čustveni ravni. Konservativno zdravljenje je bolj učinkovito kot nezdravljenje pri izboljšanju urinske inkontinence po prostatektomiji. Vse štiri preučevane metode so se sicer izkazale kot učinkovite pri zdravljenju urinske inkontinence, vendar naj bi bil glede na izsledke raziskav trening mišic medeničnega dna prva metoda izbora. Biološka povratna zveza in električna stimulacija pa se priporočata predvsem za povečanje zavedanja mišic medeničnega dna in za učenje njihove zavestne kontrakcije. Magnetna stimulacija je nova obetavna metoda, potrebne pa so nadaljnje raziskave, ki bodo potrdile njeno učinkovitost.

Ključne besede: rak prostate, incidenca raka, trening mišic medeničnega dna, biološka povratna zveza, električna stimulacija.

Conservative treatment of urinary incontinence after radical prostatectomy – literature review

Background: Prostate cancer is on the increase in developed countries, so that is why it is a major medical and economic problem (1). The consequences of radical prostatectomy are urinary incontinence and erectile dysfunction which affect the quality of life (2). Following radical prostatectomy, the prevalence of urinary incontinence at 1 month after surgery is high, ranging from 6% to 87% (3). Conservative treatment should be offered as first-line therapy to men with urinary incontinence after prostatectomy (4). Purpose: To review the literature on the effectiveness of conservative treatment for urinary incontinence after radical prostatectomy. **Methods:** A computer search on PubMed, Cinahl, Embase, Index Medicus and the Cochrane Central register of Controlled Trials Cochrane Library was carried out for randomized controlled trials published between 1994 and 2011. Searching for the literature was limited to English and Slovenian and the time period between 1994 and 2011. **Results:** Considering the inclusion and exclusion criteria, 17 randomized controlled trials have been included. Studies have examined the effectiveness of pelvic floor muscle training, biofeedback, electrical stimulation and magnetic stimulation to improve urinary incontinence after radical prostatectomy. All studied methods have proven to be effective. In comparison to other methods the pelvic floor training gave significantly better results. Adding biofeedback to pelvic floor muscle training had no additional effect compared to pelvic floor muscle training alone. Similarly, in studies comparing pelvic floor muscle training with pelvic floor muscle training combined with electrical stimulation no additional effect was demonstrated adding electrical stimulation. Evidence of the effectiveness of magnetic stimulation is limited. **Conclusions:** Urinary incontinence is an undeniable social problem, associated with impaired emotional and psychological well-being. Conservative treatment is more effective than no treatment in improving urinary incontinence after radical prostatectomy. All four studied methods have proven to be effective, however, according to the results of the studies, pelvic floor muscle training should be offered as first-line therapy to men with urinary incontinence after prostatectomy. Biofeedback and electrical stimulation are recommended as facilitation methods in order to stimulate awareness and obtain voluntary pelvic floor muscle contraction. Magnetic stimulation is a new promising method, but further research is needed to confirm its effectiveness.

Key words: prostate cancer, cancer incidence, pelvic floor muscles, biofeedback, electrical stimulation.

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