

# *Physiotherapy approach in vulvodynia*

## Fizioterapijski pristup kod vulvodinije

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Case report  
Prikaz slučaja

## Abstract

**Introduction:** Vulvodynia is a long-term pain in the vulva area which has a negative impact on the emotional and psychological status of women, sexual function and quality of life.

**Aim:** To present the physiotherapy approach in vulvodynia.

**Materials and methods:** A 24 - year old woman with vulvodynia is presented. The physiotherapy assessment included assessment of posture, muscle strength through a manual muscle test, pain intensity using the Numeric Pain Scale, sexual function according to the Female Sexual Function Inventory and quality of life according to the SF-36 Questionnaire. Physiotherapy intervention was based on stretching exercises, breathing exercises and pelvic floor muscle training.

**Results:** The patient reports an improvement and decrease in the intensity of pain due to vulvodynia, an increase in desire, arousal and orgasm and a decrease in the patient's sexual dysfunction. Also, there is an increase in physical functioning, emotional well-being, social functioning, general health and patients' quality of life.

**Conclusion:** This is a report of a rare and unusual case of vulvodynia in a young woman. Physiotherapy contributes to reducing the symptoms of vulvodynia, but considering the complexity of the problem, it is essential teamwork.

**Key words:** physiotherapy assessment, physiotherapy intervention, vulvodynia

## Sažetak

**Uvod:** Vulvodinija je dugotrajna bol u području vulve koja negativno utječe na emocionalni i psihički status žene, spolnu funkciju i kvalitetu života.

**Cilj:** Prikazati fizioterapijski pristup vulvodiniji.

**Materijali i metode:** Prikazana je 24-godišnja žena s vulvodinijom. Fizioterapijska procjena uključivala je procjenu posture, mišićne snage manualnim mišićnim testom, intenziteta boli pomoću numeričke ljestvice boli, spolne funkcije prema *Female Sexual Function Inventory* i kvalitete života prema SF-36 upitniku. Fizioterapijska intervencija temeljila se na vježbama istezanja, vježbama disanja i treningu mišića zdjeličnog dna.

**Rezultati:** Pacijentica upućuje na smanjenje intenziteta boli zbog vulvodinije, povećanje želje, uzbuđenja i orgazma te smanjenje seksualne disfunkcije. Također, dolazi do povećanja tjelesnog funkcioniranja, emocionalnog blagostanja, socijalnog funkcioniranja, općeg zdravlja i kvalitete života pacijentice.

**Zaključak:** Rad prikazuje rijedak i neobičan slučaj vulvodinije kod mlade žene. Fizioterapija pridonosi smanjenju simptoma vulvodinije, ali s obzirom na složenost problematike, neophodan je timski rad.

**Ključne riječi:** fizioterapijska procjena, fizioterapijska intervencija, vulvodinija

## Introduction

Vulvodynia refers to vulvar chronic pain of unknown etiology accompanied by associated factors.<sup>1,2</sup> According to the International Society for the Study of Vulvovaginal Diseases, vulvodynia appears in more than 8% of women in the world population, regardless of age, socioeconomic or ethnic groups. Due to lack of awareness or insufficiently clear and guiding symptoms, the condition is often undiagnosed and untreated, which negatively affects the emotional and psychological status of women, satisfaction with sex life and quality of life in general.<sup>3,4</sup>

Vulvodynia can be classified as provoked, unprovoked and mixed vulvodynia.<sup>5</sup> Pain and discomfort in provoked vulvodynia is most often caused by sexual intercourse, touch or contact to the vulva. In the unprovoked form, the pain is mostly constant, more or less pronounced. According to the occurrence, vulvodynia is classified as primary and secondary, while depending on the distribution of the pain, it can occur as localized or generalized.<sup>6</sup> It is considered that women who have been diagnosed with depression or post-traumatic stress syndrome have a significantly higher risk of developing vulvodynia.<sup>7</sup> Vulvodynia can have an extremely unfavorable impact on a woman's life, causing significant physical disability, reduced function in activities of daily life, and negatively affecting family and social life.<sup>8,9</sup> Furthermore, vulvodynia has an impact on a woman's sexual ability, disrupting intimacy and the relationship with her partner.<sup>10</sup> Severe chronic pain caused by vulvodynia has serious psychosocial consequences such as low self-confidence, feelings of shame and lower value in the sexual sense, and dissatisfaction with own body.<sup>11,12</sup>

The complexity of the problem of vulvodynia results in still unclear treatment protocols. According to the literature, in addition to regular hygiene of the genital area and cognitive behavioral therapy, physiotherapy interventions also play an important role.<sup>13</sup>

The aim of this case report is to present a physiotherapy approach in a patient with vulvodynia.

## Materials and methods

The patient was 24 year-old women who attended at the Department of Physical Medicine and Rehabilitation of Health Center Primorsko-goranska County, due to pain in the vulvar area. Before the visit, the patient consulted a gynecologist who made a diagnosis of vulvodynia. The patient has associated factors such as vaginismus, dyspareunia, chronic musculo-fascial pelvic pain syndrome and Lichen sclerosus vulvae. The first symptoms started two years ago with an unknown cause. The patient reported discomfort and pain in the area of the vulva. Symptoms are aggravated by sexual intercourse, wearing tight clothes, using tampons and riding a bicycle. Due to the symptoms, she has reduced her social life and has a sedentary lifestyle. The patient also mentions accompanying symptoms such as lack of energy, chronic fatigue and unintentional weight loss. The patient is a 24-year old student, 170 cm tall and 51 kg weight, with a body mass index of 17.6. There is no history of previous childbirth, injury or surgery in the pelvic area. The patient was sexually active, but for the past two years she has been avoiding sexual intercourse due to painful penetrations. Ethical approval has been obtained from Ethics Committee of Health Center Primosko-goranska County (approval number: 01-286/1-4-23) and informed consent from patient has been obtained.

### Physiotherapy assessment

The physiotherapy assessment included assessment of posture, muscle strength, pain intensity, sexual function and quality of life. During the observation, kyphotic posture with head protraction, increased convex curve in the thoracic and sacral regions of the spine with anterior pelvic tilt were observed. Kyphotic posture may be a reflection of the patient's sedentary lifestyle and the sitting position in which most of the time is spent due to student obligations, which contribute to a lack of energy

and chronic fatigue. Lee and Kim reported that with an increase in the number of hours spent in a sitting position, the level of stress, anxiety and depression among students increases.<sup>14</sup> An assessment of the muscle strength of the abdominal and gluteal musculature was carried out: m. rectus abdominis, m.obliques abdominis, adductors and m. gluteus maximus due to associated factors (chronic musculo-fascial pelvic pain syndrome) and the anatomical connection of the muscles to the pelvic floor, using the Medical Research Council Manual Muscle Testing scale.<sup>15</sup> The results of the manual muscle test with a score of 5 indicate that there is no weakness as a prominent deficit. Also, a physiotherapist palpated the anterolateral abdominal and gluteal areas and evaluated the presence of tension and pain. The patient did not report any discomfort, tension or pain symptoms in the lumbopelvic area. These findings suggest that abdominal muscles don't generate intra-abdominal pressure, which may cause symptoms of vulvodynia.

According the Numeric Rating Scale<sup>16</sup> the patient reports pain intensity 6/10 at the initial assessment, 5/10 after the physiotherapy intervention and 5/10 one month after the physiotherapy. The chronicity of the pain and the present chronic fatigue syndrome certainly contribute to the small change in pain intensity.

Sexual function was assessed using the Female Sexual Functional Indeks.<sup>17,18</sup> The results of all domains of the questionnaire indicate the presence of sexual dysfunction in the patient (Table 1.).

The SF-36 questionnaire<sup>19</sup> was used to assess the impact of vulvodynia on quality of life. The results of the initial assessment point to a significant impact of vulvodynia on the patient's quality of life, especially in the domains of role limitations due to physical health, emotional problems, energy/fatigue, social functioning and pain (Table 2.). Maximum disability in the domain of limitations due to emotional problems points to a psychological component in the patient.

**Table 1. Results of the Female Sexual Function Index Questionnaire (FSFI) before, after and one month after the physiotherapy interventions**

FSFI domains	Before physiotherapy intervention	After physiotherapy intervention	One month after physiotherapy intervention
Desire	3	3.6	3.6
Arousal	3.3	4.2	3.3
Lubrication	5.4	4.5	4.8
Orgasm	2	3.2	2.4
Satisfaction	3.2	3.2	2.4
Pain	1.6	1.6	0
Score	18.5	20.3	16.5

**Table 2. Results of the SF-36 questionnaire before, after and one month after the physiotherapy interventions**

SF-36 domains	Before physiotherapy intervention	After physiotherapy intervention	One month after physiotherapy intervention
Physical functioning	65	70	75
Role limitations due to physical health	50	50	50
Role limitations due to emotional problems	66.7	0	66.7
Energy/fatigue	30	40	45
Emotional well being	56	72	72
Social functioning	50	62.5	50
Pain	32.5	45	35
General health	40	40	55
Score	75	100	75

The physiotherapy assessment was carried out before the start of the physiotherapy intervention, after 12 physiotherapy interventions and one month after the physiotherapy intervention.

### Physiotherapy diagnosis and prognosis

The physiotherapy evaluation showed a significant impact of vulvodynia on the patient's sexual activity and quality of life. The prognosis to return to a symptom-free life was more difficult to predict because of the nature and complexity of vulvodynia. However, the literature suggests that physiotherapy procedures, especially therapeutic exercise and pelvic floor muscle training, can lead to a reduction in vulvodynia symptoms<sup>2,5</sup> especially reduction in pain and improved function of the pelvic floor muscles.<sup>20,21</sup>

### Physiotherapy intervention

Based on the results of the physiotherapy assessment, goals were set in agreement with the patient and a physiotherapy intervention based on stretching exercises, breathing exercises and pelvic floor muscle training was carried out. Twelve physiotherapy interventions were carried out, three times a week for four weeks, lasting 45 minutes.

An important aspect of physiotherapy intervention for a patient with vulvodynia is the implementation of stretching exercises and training of the pelvic floor muscles, as they contribute to the return of muscle strength and function, reduction of pain intensity, and improvement of sexual activity and quality of life.

Stretching exercises were performed in a supinated and pronated position while avoiding pressure on the vaginal area and avoiding provoking muscle spasm. The stretching was focused on the adductor muscle group of the upper leg with the aim of achieving muscle elasticity, activation or relaxation of the adductor originates and the vaginal area. Each exercise was performed while holding the position for fifteen seconds.

Pelvic floor muscle training was performed in a supinated position. The emphasis was on the conscious activation of the pelvic floor muscles while holding the contraction for five seconds. The contraction was accompanied by prolonged relaxation of the pelvic floor muscles with abdominal breathing. Pelvic floor muscle dysfunction such as increased general tension, or problems contracting and relaxing the muscles, are common in vulvodynia.<sup>13, 22, 23</sup> Higher pain intensity is associated with decreased muscle function.<sup>24</sup> Weakness or spasm of the pelvic floor muscles is a common cause of its dysfunction, resulting in pelvic pain, painful intercourse and sexual dysfunction.<sup>25</sup> The literature suggests that directed exercises can strengthen the pelvic musculature and increase neuromuscular control over the pelvic floor muscles, resulting in a reduction or complete withdrawal of symptoms associated with pelvic floor dysfunction.<sup>26</sup> Hypertonic pelvic floor muscles can manifest in a variety of combinations and our patient has dyspareunia, vaginism, reduced desire and experience of orgasm. The purpose of pelvic floor muscle training was to raise awareness, activate and relax the pelvic floor muscles, improve sexual function and reduce pain intensity.

In addition to the pelvic floor muscles, the abdominal and gluteal muscles were activated. Each exercise was

followed by relaxation based on abdominal breathing in order to achieve complete psychophysical relaxation in the patient. The patient was educated about exercises to perform regularly at home.

## Outcome

After the physiotherapy intervention, the patient reported a slight decrease in the intensity of pain due to vulvodynia, which is reflected in an increase in desire, arousal and orgasm and a decrease in the patient's sexual dysfunction. Also, there is an increase in physical functioning, emotional well-being, social functioning and general health and a decrease in role limitations due to emotional problems and energy/fatigue, that is, to improving the patient's quality of life. The results indicate a positive effect of physiotherapy intervention.

However, after the evaluation one month after the end of the physiotherapy, there is a slight decrease in arousal, orgasm and satisfaction on the Female Sexual Functional Index, as well as an increase in pain and a decrease in social functioning, according to the SF-36 questionnaire. The reason seems to be the patient's statement that she feels anxious and worried, as well as the presence of a lack of energy and chronic fatigue syndrome, which in addition to being underweight, contribute to the results of the evaluation after one month. Also, Haefeli and Elfering<sup>27</sup> reported that when pain and fatigue are 'persistent' or 'unexplained' they are associated with poorer quality of life and lead to the pain-fatigue cycle, while Chisari and Chilcot<sup>28</sup> reported that fatigue is associated with increased pain intensity.

The results of this case report emphasize the importance of the component of maintaining muscle function after physiotherapy. At the same time, the results of the evaluation point to a pronounced psychological component in the patient which seems to have affected the results of the evaluation after one month. The patient was instructed to continue the prescribed exercises and suggested psychological therapy.

Pain-related anxiety is common in patients with vulvodynia and plays a role in exacerbating and prolonging chronic pain, which is the case with our patient.<sup>29</sup> Also, our patient has role limitations due to emotional problems and fatigue, which seems to be related to lower evaluation results one month after the end of the physiotherapy intervention. The results emphasize the complexity of the problem in patients with vulvodynia and the necessity of team cooperation with a psychologist.

## Discussion

Vulvodynia affects many aspects of a woman's health and well-being, and a comprehensive assessment of pain, sexual function, and psychological status is necessary. Physiotherapy approach to a patient with vulvodynia is particularly sensitive and implies significant expertise when taking a gynecological history. In addition to data on subjective symptoms, it is important to assess the patient's psychological and emotional status.

During a physiotherapy assessment, it is important to use communication skills that increase the patient's openness, trust and honesty. The characterization of pain is essential for creating a plan and setting goals and guidelines for physiotherapy intervention. The most common problem of our patient with vulvodynia is pain during sexual activities, especially during vaginal penetration, which affects sexual desire and satisfaction with sexual life. Williams and Craig defined pain as *"a distressing experience associated with actual or potential tissue damage with associated sensory, emotional, cognitive, and social components"*.<sup>30</sup> Pain is a subjective experience, and physical, emotional and cognitive processes are involved in the experience of pain.<sup>31</sup> Person who experience chronic pain for a long period of time have a higher risk of developing psychological disorders, including depression, anxiety and addictions<sup>32</sup>. Therefore, in the presented case, it is essential to highlight the cause-and-effect relationship between chronic pain and the patient's psychological status. Also, according to the available literature, women with a diagnosis of vaginismus have a lower pain threshold, and the pain threshold decreases with higher degrees of vaginismus.<sup>33</sup> Also, an increase in pain was recorded in women who avoid sexual intercourse.<sup>33</sup> The World Health Organization emphasizes that sexual health is fundamental to the overall health and well-being of individuals, therefore, it is essential to help patient with vulvodynia to achieve holistic health.

Lack of energy and chronic fatigue syndrome are clearly related to a person's psychological status.<sup>2,34</sup> Furthermore, according to the research of Yildirim et al.<sup>35</sup> in 79.86% of women diagnosed with vaginismus, at least one psychological disorder, anxiety or depression was listed as a comorbidity, while Till, As-Sanie, and Schrepf<sup>36</sup> reported that prevalence of many psychological disorders is higher among patients with chronic musculoskeletal pelvic pain.

Chronic vulvodynia can lead to a wide range of musculoskeletal and neuromuscular difficulties that can occur when the muscles, nerves and tissues of the pelvic floor and/or surrounding area are restricted and overactive or when there is dysfunction, asymmetry



or misalignment in the musculoskeletal system. Also, women with vulvodynia often end up in a vicious circle where one symptom leads to another, and it is difficult to sort out cause and effect.<sup>34</sup> Therefore, in patients with vulvodynia, the basic treatment guidelines should be derived from a team approach, which includes psychological help, physiotherapy intervention, patient education, and behavioral and lifestyle changes.<sup>1, 13, 20, 21, 23, 37</sup> Based on its holistic approach, physiotherapy can contribute significantly to the assessment and treatment<sup>38</sup>, reduction in pain and improved function of the pelvic floor muscles.<sup>20,21</sup>

The results of this case report point to the effectiveness and importance of extending physiotherapy with the aim of achieving sustainable results and the necessary involvement of psychological support and preservation of mental health.

Pain in a particular segment of the human body undeniably affects daily functioning and the quality of human life. Timely diagnosis and treatment provides the opportunity to perform the desired activities, reduce complications and improve the quality of health and life.

## Conclusion

The lack of a standardized physiotherapeutic approach to the treatment of vulvodynia makes it difficult to recommend particular forms of physiotherapy in particular cases. This case report highlights the importance of timely diagnosis, appropriate diagnostic modalities, and therapeutic approach to vulvodynia.

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