

Physiotherapy as a Way to Maintain Vaginal Health during Menopause

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Abstract

The majority of women will experience some or most of the menopause symptoms in their life. This time in women's life is associated with a reduction in estrogen levels which leads to physiological changes that affect different organ systems. In the urogenital tract, these changes usually cause vulvar and vaginal atrophy, affecting a vaginal health of women and decreasing their quality of life. Also, there is a reduction in vaginal moisture and loss of tissue elasticity. Besides, other organ systems are involved and they can also negatively impact normal vaginal physiology. These evolutionary changes frequently lead to bothersome symptoms that can negatively impact a woman's vaginal health and the quality of life. The role of pelvic floor physiotherapy is to improve the tone and strength of the muscle fibres in order to achieve the increase of motor units, improve muscle elasticity and to increase the muscle mass which will help to alleviate menopause symptoms.

Keywords

Menopause, Vaginal Health, Physiotherapy, Pelvic Floor

1. Introduction

Vaginal health is considered to be a fundamental aspect in guaranteeing the overall female wellbeing and healthcare. It was defined for the first time in Spain in 2014 as "the state of the vagina where all the appropriate physiological conditions that change throughout the woman's life are maintained, a state with ab-

sence of local symptoms of dysfunctions that allows a woman to have a satisfactory sexual life without suffering any genital trophism” [1].

Vagina is covered with polystratified squamous epithelium dependant on the estrogenic stimulus in a way that when estrogen levels decrease so does the process of proliferation.

As a consequence, the number of vaginal epithelium layers decreases, epithelium becomes thinner, exposing the nerve endings and increasing sensitivity [2].

Estrogen levels affect humidity levels, pH and the composition of the vaginal discharge. They also regulate blood circulation in the vagina that reduces when the estrogen levels decrease. All this will cause changes in the trophism that could affect the vaginal mucosa by causing deficit and eventual disappearance of lactobacilli, which will result in susceptibility to infections affecting sexual life and urinary symptomatology as well as pelvic floor support systems [2].

2. Menopause and Vaginal Health

Menopause (from Greek *meno*—month, *pasis*—stop) is defined as a definite stop of the menstruation. This physiological condition takes up to 40% of a woman’s life (considering life expectancy to be around 80 years in industrialised countries) and it is very important as it causes profound changes in women’s health.

Menopause causes 57% - 67% of all the sexual dysfunctions that a woman may suffer during her life, this is reflected in the changes in satisfaction, excitation, lubrication, desire, orgasm and dyspareunia [3].

There could be more than one cause of dysfunctions that affect sexual health of a woman, there also could be connection between them. Among the categories of sexual dysfunctions there are:

Sexual desire disorder which is characterised by a lack or absence for some period of time of sexual desire or libido for sexual activity. Sexual arousal disorders is a disorder characterised by a persistent or recurrent inability to attain sexual arousal or to maintain arousal until the completion of a sexual activity. The condition is known as a lack or absence of sexual fantasies and desire for sexual activity for some period of time. Orgasm disorders are persistent delays or absence of orgasm following a normal sexual excitement phase. Sexual pain disorders like dyspareunia-painful intercourse or vaginismus-an involuntary spasm of the muscles of the vaginal wall that interferes with intercourse [4].

During menopause biological, psychological and social changes are provoked by the reduction of estrogen number that are being generated, which negatively affects the sexual life of 92.1% of women [5].

75% to 85% of women have menopause symptoms but they are variable and different in every woman:

- Short-term or acute symptoms: produce vasomotor alterations like hot flashes and neuro-psyche changes, fatigue, insomnia and irritability.
- Medium term or subacute symptoms: genitourinary apparatus suffers mucocutaneous atrophy.
- Long term symptoms: cardiovascular problems and osteoporosis appear.

3. Changes in Female Body Functioning Related to Menopause

The peri- and post-menopausal years are associated with a decline in estrogen levels and, as a result a hypoestrogenic condition. This leads to important physiological changes that affect multiple organ systems, particularly the endocrine and genitourinary systems [6].

Series of changes due to hypoestrogenism occur during menopause and they affect the whole organism [7].

3.1. Hormonal and Physiological Changes

There are changes in the levels of testosterone, progesterone, prolactin, oxytocin and endorphin. Oxytocin and endorphin are responsible for low vascular congestion, reduced sexual motivation and a low clitoris reaction.

Estrogen level reduces causing insufficient lubrication, mucous atrophy and dyspareunia [8].

These hormonal variations provoke series of symptoms typical for this stage that affect many women. Hot flashes are the most common symptom and it occurs in 79% to 86.4% of the cases [9].

The symptoms that may appear are: dizziness, soreness in 82.1% of women [10], anemia, hypothyroidism, polyps and myomas [11], insomnia, urinary incontinence, shivers, thinning of axillary and pubic hair, weight gain, accumulation of fat in the hip and stomach area in 84.6% of women [12].

3.2. Genital and Gynecological Changes

The following anatomical physiological changes are produced: Thinning of the mucosa and the consequent loss of the vaginal, urethral and vesical epithelium thickness and elasticity; an increase of pH level to ≥ 5 ; vaginal erosions and cervicovaginal friability. All these changes are responsible for vaginal and urinary clinical state and the quality of sexual life of a woman [2].

Vagina becomes smaller, less elastic pale and pink in colour. Ulcers in epithelium could appear, clitoris becomes more exposed because of the labia regression and the reduction of the normal flora and basic pH leading to vaginal infections [8].

The most important symptom is the vaginal dryness that is present in 90% of menopause women. This dryness is a result of poor lubrication and, in its turn, causes vulvovaginal itching. Pelvic floor support is being lost, the erection of the nipples and clitoris reduces [5]. These genital atrophy problems, unlike hot flashes and night sweats, do not improve with time, they even progressively become more severe damaging sexual health and the quality of life of the patients [13].

3.3. Psychological and Emotional Changes

The real cause of these changes is the physical changes that a woman goes through and that affect her badly. The most common is the anxiety, seen in

50.6% of women, depression in 43.8%, irritability in 33.3% [10], dysphoria, nervousness, bad mood and sadness in 82.5% of women. Memory loss is related to stress and is present in 31% - 44% of the women. Antidepressants have an adverse effect and cause sexual dysfunctions [5].

3.4. Sexual Changes

There is a decrease in sexual desire and satisfaction, which requires longer stimulation.

The orgasms are shorter and dyspareunia can appear. Sexual dysfunctions are likely to be present in peri and post menopause women affecting 42% and 88% respectively.

27% of women have decreased libido [11].

Climateric syndrome appears between 45 and 55 years of age, and becomes more severe in the first 5 years. A decrease of libido affects 63.3% of the women, there are also problems that affect sexual satisfaction (53.1%), lack of desire (23%) and dyspareunia (12.5%) [14].

All these symptoms worsen while a woman transitions from a peri menopause to the post menopause stage. Vaginal dryness is the most common of all. 10.56% of women avoid having sexual relationships, this percentage increases in post menopause women reaching 33.8%.

Despite high prevalence of these symptoms, only 1 in 4 patients who have them sees a doctor because of them and more than a half (70% of women) never or almost never have asked about vaginal dryness during a gynecological check up [15].

During menopause, a positive attitude while adapting to the changes and seeing a doctor, if necessary, improves overall health and wellbeing [16].

4. Physiotherapy and Vaginal Health in Women with Menopause

The main objective of pelvic floor physiotherapy is the vaginal health recovery together with the increase of knowledge and proprioception, improvement in muscle relaxation, muscle tonification, the increase of the elasticity of the tissues and desensibilization of the painful areas [17] [18].

Physiotherapy treatment is used to achieve established objectives and could include: manual therapy; functional training (coordination, strength, muscle resistance, flexibility, relaxation), mechanical, physical or electrotherapy agents.

The role of pelvic rehabilitation is to improve the tone and strength of the muscle fibres in order to achieve the increase of motor units, improve muscle excitation frequency and the increase of muscle mass.

Physiotherapy can help women at this stage in their lives alleviating the symptoms and improving the quality of life.

It is hard to compare results between studies, and it is difficult to definitely say which training regimen is the more effective, as there are different instruments and scales to measure and evaluate pelvic floor strength. Also the exercise mod-

ality (type of exercise, frequency, duration and intensity) is significantly diverse between studies [19] [20].

Compared to surgery pelvic floor muscle training has no known side effects, is relatively in-expensive, and women should be motivated to intensively perform pelvic floor muscle exercise as first line treatment [21].

It is often reported that pelvic floor muscle training is more commonly associated with improvement of symptoms, rather than a total cure. However, in several cases cure has been reported [22]. Among the most efficient methods to strengthen pelvic floor muscles to prevent vulvovaginal atrophy and improve the life of a woman we considered including the following.

4.1. The Use of Vaginal Dilators

The use of dilators help women decrease stenosis, the stretching of the vagina caused by menopause. Besides, after performing exercises with dilators the elasticity of the tissues becomes better and the pain sensation is minimised which makes sexual relationships more comfortable [23].

Vaginal dilators could be considered a very useful tool to strengthen pelvic floor muscles. The dilators help women to have a precise control over the size, speed and the angle of the the insertion. That help to trigger muscle reaction similar to the ones women have during sex. A woman contracts and relaxes consistently and consciously the vaginal muscles with the inserted dilators. The dilators could be made of plastic o silicon and come in different sizes. The treatment can last from several weeks to several months [19].

4.2. Vaginal Cones

Vaginal weights or cones are introduced into the vagina above the levator plate [24]. Exercises with these vaginal cones is considered to be a good pelvic floor muscle training. By contracting the muscles women strengthen pelvic floor area and become aware of the perineal muscle action at the same time. Every cone has the same size but a gradually different weight, and the purpose of the exercise is that they have to be maintained in the vagina like a small tampon during several minutes while standing up or walking.

After introducing the cone into the vagina it usually descends and slightly falls down pushed by its own weight. The feeling of the weight coming out causes a light pelvic floor muscle contraction and therefore helps to maintain the cone inside. This simple contraction and the gradual increase of the weight of the cones strengthen pelvic floor muscles. Women are usually asked to try to hold the weight inside in standing position for 1 minute and then gradually increasing the time of the exercise [17]. Patients start to notice improvements in muscle tone after 2 or 3 weeks, on average a complete course can last 2 to 3 months.

4.3. Chinese Vaginal Geisha Balls

There are scientific studies that show the efficacy of the Chinese vaginal balls method to recover pelvic floor muscles. The use of these balls prevents and could

even stop the problems caused by the lack of pelvic muscles strength. Vaginal balls may be a good proprioceptive method, as the motivation to perform exercises could increase vaginal lubrication. These balls are placed in the vagina behind pubococcygeous muscle. There are usually one or two balls joined by a string. Each ball is has a smaller ball inside. With the movement, while walking, the interior ball is moving too, creating a vibration that stimulates vaginal vibrio receptors provoking the contraction of the soft muscles of the vagina. Besides, the weight of the ball stimulates baroreceptors of the perineal muscles providing good tonification [25].

For example Boltex Inertial balls are designed in a way that the internal surface of the balls is made of hexagonal plaques which stimulate pelvic floor more effectively independent of the position of a ball in the vagina and at the same time they adapt to the morphological and anatomical characteristics of the users [26]. Regarding the time of use, muscle fatigue will be the indicator to stop the exercise. A woman should not reach the stage when she realises that it is too hard for her to keep the ball inside. It is not recommended to use the balls more than three consecutive hours [27].

4.4. Kegel Exercises

Pelvic floor rehabilitation techniques become popular in 1950 when the gynecologist Arnold Kegel has discovered and proved the relationship between pelvic floor dysfunctions and hypotonia or perineal muscle weakness and reported that women had a noticeable improvement or complete disappearance of symptoms after having performed these strengthening exercises. Kegel was the first to create pelvic floor muscle training [17]. His method includes exercises augment the strength of perineal muscle contractions. The efficacy of these exercises has been clearly demonstrated [19]. There ways to perform these exercises are different, but they are all based on repetitive contraction and relaxation of the muscles so that the muscle strength and resistance could be trained. Kegel exercises improve the symptoms of dyspareunia and prevent or avoid urinary incontinence and other similar problems [28].

5. Conclusion

Vaginal atrophy is the most common symptom of menopause which negatively affects the sexual health of women at this stage of their life. The whole organism is affected by the changes that are produced during this time; they include changes on a psychological and sexual level but more commonly on a hormone level, genital and gynecological levels. Physiotherapy can help to treat vaginal atrophy by strengthening the muscles and alleviate the symptoms of menopause and improve vaginal health of a woman.

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