41 - INFLUENCE OF PILATES METHOD IN THE TREATMENT AND QUALITY OF LIFE IN WOMEN WITH URINARY INCONTINENCE

SIMONE SUELEN STELTER,
JULIANA CRISTINA FRARE
Universidade Estadual do Oeste do Paraná – UNIOESTE
Campus Cascavel/Paraná/Brasil
sih_stelter@hotmail.com

INTRODUCTION

According to the International Continence Society, Urinary Incontinence (UI) is defined as the complaint of any involuntary leakage of urine, being classified as stress UI (SUI), when associated with situations in which there is increased intra-abdominal pressure; IU (UUI), when associated with a strong urge to urinate, and mixed UI (MUI), when both types are present (VIRTUOSO et al., 2011). The prevalence of symptoms of urinary incontinence increases with age and becomes extremely common with the aging population, it is estimated that 80% of the female population between 25 and 60 years of age showed symptoms of this condition (FITZ et al., 2012; Leroy et al., 2012). With the aging process, the female lower urinary tract presents some changes, such as muscle atrophy, replacement of muscle tissue by adipose tissue and consequent decrease in force of contraction of the pelvic floor muscles, which can cause involuntary loss of urine (VIRTUOSO et al., 2011). Although UI is not put directly affected the lives of people at risk, there is a consensus about the fact that it can negatively affect quality of life (QOL) in many respect , both psychological and social, and physical, personal and sexually (FITZ et al., 2012).

To improve function and strengthen the pelvic floor muscles, preventing and treating UI as well as its consequences for the QOL and well- being of women, physical therapy has arranged various treatment methods, among them is the Pilates Method, which has several benefits in this context because it involves the stimulation of the pelvic floor muscles in almost all his exercises. Its main objective is to strengthen the muscles of the powerhouse (power center), composed of the abdominal muscles, glutes, lumbar paraspinal and pelvic floor muscles, reducing leakage, and stimulate body awareness and posture adjustment, resulting in a better quality of life (Maggi, 2011; Mannrich and SILVA, 2009). The exercises that make up the method involve isotonic and isometric contractions, and during the years the term is associated with the contraction of the diaphragm and the muscles of the center of force, empowering them (and Mannrich SILVA, 2009).

This study aimed to verify the influence of Pilates Soil treatment and quality of life of women with urinary incontinence.

METHODS

This is a descriptive study of quantitative character of the clinical trial, conducted in the period April to October 2013 in the Physiotherapy Clinic of the State University of West Paraná - Unioeste.

Inclusion criteria were: being female, age less than 50 years, clinical diagnosis of UI and present medical referral for physiotherapy treatment in Physiotherapy Clinic Unioeste. Exclusion criteria were: being male, do not submit referral to physiotherapy UI, age below 50 years, did not attend treatment sessions over 2 consecutive unexcused.

The sample was composed of 9 women. In the initial approach, the patients signed the informed consent form, answered Scoreboard Physical Therapy Urinary Incontinence (elaborated by the author) and Urinary Incontinence Questionnaire ICIQ_SF, which is a questionnaire used to assess UI consists of six questions that assess the frequency, severity and impact of urinary incontinence in IU daily, plus a sequence of eight self-diagnosis items related to the causes or situations UI that are not scored. The sum of the scores (ICIQ score) ranges from zero to 21, with the higher the total score, the greater the severity of UI.

In the sequel we performed a clinical assessment of patients through physical examination and measurement of pelvic floor muscle strength, for which we used a pressure perineometer Quark brand, model Perina ® 996-2, which records the action potentials of contractions pelvic floor muscle and its intensity translates into visual signals through analog scale graded from 0 to 46.6 mmHg. How biosecurity measures were used gloves, condoms and disposable sheets during evaluations of patients.

Following the evaluation, a unique group of women was organized to begin the treatment protocol, conducted in the laboratory of Pilates Physiotherapy Clinic Unioeste, at a frequency of 2 times a week, lasting 1 hour each session, totaling 16 visits. The exercises that were part of the protocol run of the Pilates Method Solo, and then performed the movement during exhalation, making the contraction force center, holding this contraction and position during the next inspiration and returning to the starting position at expiration. Were performed 10 repetitions of the exercises named below: Bearing down; Squat; Stretching Cat; Hundreds Bridge - feet on the ball, lifting the hip with feet on the ball; Abdominal extension of the lower limbs on the ball; Abdominal Oblique; Cooldown and pelvic mobilization.

After treatment the patients were evaluated by physical examination and perineometer questionnaire assessing quality of life ICIQ - SF.

This study was approved by the Ethics and Human Research (CEP) - Unioeste under Opinion No 048/2013- CEP.

RESULTS AND DISCUSSION

The final sample was composed of 6 women, and the age of the participating patients ranged 50-77 years with a mean age of 61,3 years (SD ± 10.46).

In sample 4 (66,6%) women had SUI and 2 (33.3 %) had MI. Recent studies have demonstrated that SUI is the most prevalent in the general population. (VIRTUOSO and MAZO, 2013, and SANTOS COSTA, 2012; CORNÉLIO et al., 2012).

The mean duration of urinary incontinence ranged from 2-15 years with a mean of 6.8 years (SD ± 4,95). To Magui (2011), the delay in seeking treatment can be justified because women feel ashamed to report that they have this kind of problem, it is observed that a very small number of women seek medical attention immediately due to this pathology contributing to worsen the problem.

Of 6 women studied, 5 (83.30%) reported having used any kind of protection (protective underwear, absorbent, etc.) before treatment and its replacement performed 1-5 times a day, which ranged with the activities and amount of fluid intake. The average trade protections was 2.5 times per day (±1.76 SD). After treatment, three (50%) patients reported to continue making use of protection, one of which only had to leave, for security reasons, and the other, although they continued to use continuous

protection, reduced the number of exchanges to 1time per day (SD ± 1,41).

For Higa et al. (2010), although the use of absorbent may be an adaptation of women to urinary problem, and it does not bring full security and causes social and hygienic discomfort beyond the fear of smelling urine and generate a financial expense. With the reduction of trade, these discomforts and expenses also decreased, positively influencing the quality of life of women.

With respect to situations of stress urinary incontinence, the most common was the cough/sneeze reported by 6 (100%) women before treatment. After treatment there was a reduction reports of urinary incontinence in all cases (Table 1). This fact suggests that the exercise protocol proposed is to promote the strengthening of the pelvic floor muscles, improves the function of these muscles, favoring a contraction conscious and effective at the time of increased intra-abdominal pressure, thus preventing urinary losses.

Ree et al. (2007) suggest that while the increase in abdominal pressure during exercise, there is a reflex contraction of the pelvic floor muscles, and also claim that exercise can increase the volume of the pelvic floor muscles, making them capable of contracting during the increase in intra-abdominal pressure.

TABLE 1: Comparison between the situations of stress urinary incontinence before and after treatment:

SITUATIONS IN WHICH OCCUR AS LOSSES	N°. Women Pretreatment	N° women Post-Treatment
SUI		
Cough / Sneeze	6 (100%)	5 (83,3%)
load weights	5 (83,3%)	3 (50%)
Change positions	4 (66,6%)	0
Evacuate	2(33,3%)	0
Run	2 (33,3%)	0
Laughter	4 (66,6%)	0
Walk	2 (33,3%)	1 (16,6%)
IUU		
Stress	1 (16,6%)	0
Cold	2 (33,3%)	0
Hands on Water	2 (33,3%)	1 (16,6%)
Urgency to go to the bathroom	3 (50%)	0

Source: The author.

A study by Balarin et al. (2011) investigated the effects of Pilates to strengthen the pelvic floor in 5 women with SUI who underwent 2 sessions per week, and also observed decreased urinary losses in situations of increased intra-abdominal pressure corroborating the results of this study.

Considering the categories arranged in the ICIQ -SF, as the frequency of urinary leakage, before treatment, five (83.3%) women lose urine several times a day and one (16.6%) 2 to 3 times per week. After treatment, physical therapy, 3 (50 %) had urinary incontinence several times a day, 1 (16.6%) 1 time per day, 1 (16.6%) two or three times a day and one (16.6%) indicated loss once a week or less.

The question regarding the amount of urine lost was answered in the view of the participant, or as she thinks she loses. Before treatment, three (50%) women reported to lose a small amount and 3 (50%), a moderate amount. After treatment, 5 (83.3%) women reported to lose a small amount of urine and 1 (16.6%), a moderate amount.

Study by Caetano et al. (2009) , in order to verify the influence of physical activity on QOL and self image of women with UI by applying exercises similar to this study, we also observed a reduction in the frequency and amount of urinary leakage after treatment, with consequent improvement in QOL and symptoms of UI.

To evaluate the role of urinary loss in daily life through the ICIQ - SF, women circulated a number analog scale ranging from 0, "not interfere", 10, "interfere too much". The results can be seen in table 2.

Regarding the UI impact on the QOL of women, showed a moderate variation of the impact (50%) to very severe (50%) before the treatment for mild (16.6%) and moderate (83.3%) after the same suggesting a significant improvement in quality of life.

Silva and Lopes (2009) reviewed several studies and found that the effects of UI on QoL demonstrate that patients suffer social consequences, negative feelings and/or shame in 8% to 74% of cases, and there are moderate to severe impact on quality of life in 10% to 22%.

Table 2. Rating the impact of UI on QoL assessed by the ICIQ-SF

Graduate Impact on QoL	Change in score	N (%)pre-treatment	N (%)post-treatment
No impact	0	0	0
Slight	1-3	0	1 (16,6%)
Moderate	4-6	3 (50%)	5 (83,3%)
Severe	7-9	0	0
very Severe	10	3 (50%)	0

Scores: (0) none, (1-3) light, (4-6) moderate, (7-9) severe, (10) very serious.
Source: The author.

The study by Fitz et al. (2012) evaluated the impact of training of the pelvic floor muscles in QOL in 36 women with SUI through the King's Health Questionnaire (KHQ), which similar to the ICIQ - SF analyzes QoL in urinary incontinence. The author noted that the pelvic floor muscle training provided significant improvement in QOL in women with SUI. It is now known that a healthy lifestyle is associated with increased physical activity, whatever the sport, and as a consequence, brings positive aspects both in physical and in mental health, thereby improving the quality of life (TOSCABO E OLIVEIRA, 2009). Therefore, it is necessary to consider that the positive effect on QOL obtained in this study, may have been influenced by the fact that patients were gathering in groups with women who have the same problem, to perform physical exercise, regardless of the modality, acquiring a healthier lifestyle and leaving the sedentary inactivity and even social isolation, and can bring a positive quality of life.

As the assessment of severity of UI, made by summing the scores (ICIQ score), it was observed that before treatment the highest score was 18, presented by two (33.3%) women and lower 10, presented by 1 (16.6%) . After treatment, the highest score became 11 observed in 4 (66.6%) women and lower 6 in 1 (16.6%), as shown in Figure 1.

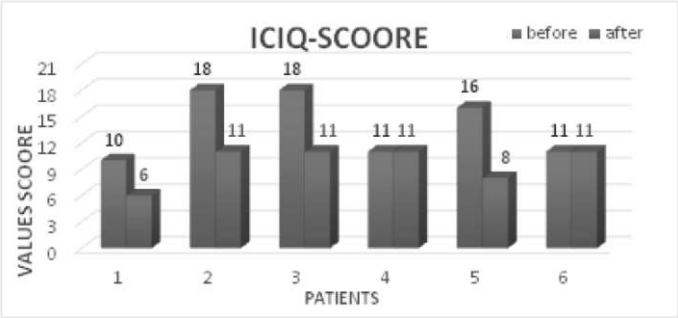

FIGURE 1: Comparison of the ICIQ SCORE pre and post physical therapy with Pilates.

It can be observed that after treatment 4 (66.6%) women achieved a ICIQ score lower compared to pre -treatment, and 2 (33.3 %) maintained the same value. For Rosa et al. (2013) Method for Pilates exercises conducted through the soil enables the body to work holistically, and through this choice of activity can improve functionality by strengthening muscles, increasing flexibility, balance, coordination and therefore can improve the quality of life.

Figure 2 represents the comparison of the perineal muscle strength measured by perineometer before and after treatment, and observed that there was a significant increase in muscle strength in post treatment in patients 1 , 3 and 6, while 2 patients, 4, and 5 kept the same measuring force , however evaluation pre perineal they showed a weaker strength compared with the others, may denote the need for a longer time to obtain best results.

Physical therapy through the Pilates Method provides an improvement in muscle strength of the pelvic floor muscles, and also leads to an improvement of the function of these muscles, favoring a contraction conscious and effective, improving urethral resistance and decreasing urinary losses (RETT et al. 2007). A review developed by Castro et al., (2010) examined the effectiveness of biofeedback for the treatment of SUI, and as a result, found that the groups treated with biofeedback were more evolution when compared to other groups, and suggested that this is possible due to the fact that many women have little awareness of these muscles and the use of biofeedback allowed the teaching of contraction beyond correction and checking of exercises.

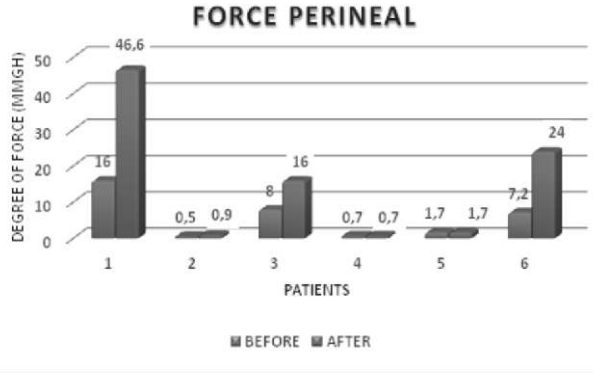

FIGURE 2: Comparison of the degree of strength (mmHg) of the perineal muscles pre and post physical therapy with Pilates.

In the present study, during the first evaluation with perineometer, women were instructed to contract the muscles in the right way, and throughout the treatment were encouraged to perform perineal contraction of the way made the first evaluation, thus improving the awareness of these muscles, and showed a consequent improvement in function and perineal strength.

In the literature there is a consensus of the time necessary to achieve the objectives proposed by the treatment nor what should be the frequency of application. This is because the response to exercise changes with age and health condition, moreover, each dysfunction requires a different time and intensity to be treated (Mannrich and SILVA, 2009). Thus, our findings may have been influenced by the treatment time, the weekly frequency and the characteristics of patients in the sample, since the difficulty of find it was not possible to have a homogeneous sample, or an "n " sample appropriate, impossible to use statistical analysis of the results. It is suggested that further studies be conducted, taking into account these issues, so as to observe more clearly the effect of Pilates on urinary incontinence.

CONCLUSION

In the present study it was found that the Pilates Method soil influenced positively both quality of life and the strength of the pelvic floor muscles of patients. We conclude that the Pilates Method can be used as a physiotherapy technique for strengthening the perineal muscles and awareness of these muscles, improving its function, reducing the situations and the frequency of urinary output, and consequently improving the quality of life of women with urinary incontinence.

REFERENCES :

Balarin, C. D. et al. Effect of Pilates to strengthen the pelvic floor in women with stress urinary incontinence by. SARE - System Anhanguera of Electronic Journals, São Paulo, v. 5, n . 2, 2011.

Caetano, A. S. et al. Influence of physical activity on quality of life and self -image of incontinent women. Brazilian Journal of Sports Medicine, São Paulo, vol. 15, n. 2, p.93-9 , 2009.

CASTRO, A. P. et al. Efficacy of biofeedback for the treatment of stress urinary incontinence: a systematic review. Sientia Medica, Porto Alegre, v . 20 , n . 3 , p.257 -263 , 2010.

COSTA , A. P., Santos, F. D. R. P. Physiotherapy approach in the treatment of urinary incontinence. FEMINA Magazine, Rio de Janeiro, vol. 40, n. 2, p. 0-3, sea/Apr. In 2012.

FITZ, F.F. et al. Impact of training of the pelvic floor muscles in the quality of life in women with urinary incontinence. Brazilian Medical Association Journal, São Paulo, vol. 58, n. 2, p. 155-159, 2012.

HIGA, R. et al. Vivencias Brazilian women with urinary incontinence. Text Context of Nursing, Florianópolis, v. 19, n. 4, p.627-635, Oct/Dec, 2010.

LEROY, L. S. ;LOPES, M. H. B. M.; Shimo, A. K. K. Urinary incontinence in women and racial aspects: a literature review. Text Context of Nursing, Florianópolis, v. 21, n.3, p.692-701, July/ SET button. In 2012.

MAGGI, D. M. The influence of method MET Pilates on female stress urinary incontinence - a proposal therapy. Physiotherapy magazine Brazil, São Paulo, v. 9, n.6, 2011.

REE, M. L; NYGAARD, I., BO, K. Muscular fatigue in the pelvic floor muscles after strenuous physical activity. Acta Obstetricia et Gynecologica Scandinavica, Mortimer Street, v. 86, n. 7, p. 870-876, 2007.

RETT, M. T. et al. Quality of life in women after treatment of stress urinary incontinence with physical therapy. Brazilian Journal of Gynecology and Obstetrics, Rio de Janeiro, vol. 29, n. 3, p.134-140, 2007.

ROSE, K. B. et al. Quality of life and functional assessment in elderly practitioners of pilates and sedentary elderly. Interdisciplinary Journal of Study on Health Issues, Hunter, v. 2, n.1, p. 18-28, 2013.

SILVA , A. C. L. G.; Mannrich, G. Pilates rehabilitation: a systematic review. Physical Therapy in Motion Magazine, Curitiba, v. 22, n. 3, p. 449-455, July/Sept, 2009.

SILVA, L.; LOPES, M. H. B. M. Urinary incontinence in women: reasons for not seeking treatment. Journal of School Nursing - USP, São Paulo, vol. 43, no. 1, p. 72-78, 2009 .

SILVA, V. A.; Elboux, M. J. Factors associated with urinary incontinence in elderly patients with criteria of frailty. Text Context of Nursing, Florianópolis, v . 40, n. 2, p. 338-347, Jan/June In 2012.

TOSCANO, J. J. O.; Oliveira, A. C. C. Quality of life in elderly subjects with different levels of physical activity. Brazilian Journal of Sports Medicine, São Paulo, vol. 15, n. 3, p. 169-173, 2009.

VIRTUOSO, J. F.; MAZO, G. Z. The physical activity is a modifiable factor of urge urinary incontinence in older women. Brazilian Journal of Sports Medicine, São Paulo, vol. 19, n. 2, p. 83-86, Mar/Apr, 2013.

VIRTUOSO, J. F.; MAZO, G. Z.; Menezes, E. C. Incontinence and perineal muscle function in elderly practicing and non-practicing regular physical activity. Brazilian Journal of Physical Therapy, San Carlos, v.15, n.4, p. 310-317, July/Aug. In 2011.

VASCONCELOS , C. T. M. et al. Pelvic floor dysfunction : clinical and sociodemographic profile of users of a laboratory urogynecology. Electronic Journal Management & Health, Brasília, v. 4, n. 1, p. 1484 - 1498, 2013.

Address : Street Jorge Lacerda, N: 1817, CEP: 85811-350
Subdivision: Garden City Claudete: Cascavel/PR

INFLUENCE OF PILATES METHOD IN THE TREATMENT AND QUALITY OF LIFE IN WOMEN WITH URINARY INCONTINENCE

ABSTRACT

The aim of this study was to investigate the influence of Pilates Soil treatment and QOL in women with UI. The sample was composed of 6 women with a mean age of 61.3 years (SD ± 10.46). Were evaluated through the QOL questionnaire ICIQ - SF and perineal muscle strength through physical examination with perineometer before and after physical therapy. Treatment consisted of 16 sessions of exercises based on Pilates Solo, performed 2 times per week, lasting 1 hour each. It was observed that the Pilates Method soil influenced positively both QOL and the strength of the pelvic floor muscles of patients, reducing the number of exchanges and the use of protective underwear, reducing the amount, the situations and the frequency of urinary incontinence and improving the impact that UI brings the QOL of patients. We conclude that the Pilates Method can be used as a physiotherapy technique for strengthening the perineal muscles and awareness of these muscles, improving its function and consequently improving the QOL of women with UI.

KEYWORDS: Urinary Incontinence, Pilates, Quality of Life.

INFLUENCE DE LA MÉTHODE PILATES DANS LE TRAITEMENT ET LA QUALITÉ DE VIE DES FEMMES SOUFFRANT D'INCONTINENCE URINAIRE

RÉSUMÉ

Le but de cette étude était d'étudier l' influence de la méthode Pilates traitement des sols et la qualité de vie chez les femmes avec l'interface utilisateur. L'échantillon était composé de 6 femmes avec un âge moyen de 61,3 ans (écart type ± 10,46). Ont été évalués par le questionnaire SF- ICIQ la qualité de vie et la force musculaire du périnée par un examen physique avec périnéomètre avant et après la thérapie physique. Le traitement consistait en 16 séances d'exercices basés sur la méthode Pilates Solo, a effectué 2 fois par semaine, une durée de 1 heure chacune. Il a été observé que la méthode Pilates sol influencé positivement à la fois la qualité de vie et la force des muscles du plancher pelvien des patients, en réduisant le nombre d'échanges et l'utilisation de sous-vêtements de protection, réduire la quantité, les situations et la fréquence de l'incontinence urinaire et l'amélioration de l'impact que l'interface utilisateur apporte la qualité de vie des patients. Nous concluons que la méthode Pilates peut être utilisée comme une technique de physiothérapie pour renforcer les muscles et la conscience de ces muscles du périnée, l'amélioration de son fonctionnement et donc d'améliorer la qualité de vie des femmes atteintes d' IU.

MOTS-CLÉS: incontinence urinaire, pilates, qualité de vie.

INFLUENCIA DEL MÉTODO PILATES EN EL TRATAMIENTO Y LA CALIDAD DE VIDA DE LAS MUJERES CON INCONTINENCIA URINARIA

RESUMEN

El objetivo de este estudio fue investigar la influencia de Pilates Tratamiento del suelo y la calidad de vida en mujeres con IU. La muestra se compone de 6 mujeres con una edad media de 61,3 años (SD ± 10,46). Se evaluaron mediante el cuestionario ICIQ -SF calidad de vida y la fuerza muscular perineal a través del examen físico con perineómetro antes y después de la terapia física. El tratamiento consistió en 16 sesiones de ejercicios basados en Pilates Solo, realiza 2 veces por semana, duración de 1 hora cada uno. Se observó que el Método Pilates suelo influenciada positivamente tanto la calidad de vida y la fuerza de los músculos del suelo pélvico de pacientes, reduciendo el número de intercambios y el uso de ropa interior protectora, reduciendo la cantidad, las situaciones y la frecuencia de la incontinencia urinaria y mejorar el impacto que trae la interfaz de

usuario de la calidad de vida de los pacientes. Llegamos a la conclusión de que el método de Pilates se puede utilizar como una técnica de fisioterapia para el fortalecimiento de los músculos y el conocimiento de estos músculos perineales, la mejora de su función y por lo tanto la mejora de la calidad de vida de las mujeres con la interfaz de usuario.

PALABRAS CLAVE: Incontinencia urinaria, Pilates, Calidad de Vida.

INFLUÊNCIA DO MÉTODO PILATES NO TRATAMENTO E NA QUALIDADE DE VIDA DE MULHERES COM INCONTINÊNCIA URINÁRIA

RESUMO

O objetivo deste estudo foi verificar a influência do Método Pilates Solo no tratamento e na QV de mulheres com IU. A amostra foi composta por 6 mulheres com média de idade de 61,3 anos (DP ± 10,46). Foram avaliadas quanto a QV através do questionário do ICIQ-SF e a força muscular do períneo através do exame físico com perineômetro antes e após o tratamento fisioterapêutico. O tratamento consistiu de 16 sessões de exercícios baseados no Método Pilates Solo, realizado 2 vezes por semana, com duração de 1 hora cada. Observou-se que o Método Pilates solo influenciou de maneira positiva tanto a QV quanto a força dos músculos do assoalho pélvico das pacientes, reduzindo o número de trocas e o uso de protetores de calcinha, reduzindo a quantidade, as situações e a frequência das perdas urinárias e melhorando o impacto que a IU traz na QV das pacientes. Conclui-se que o Método Pilates pode ser utilizado como técnica fisioterapêutica para o fortalecimento da musculatura perineal e conscientização dessa musculatura, melhorando a sua função e consequentemente melhorando a QV de mulheres com IU.

PALAVRAS-CHAVES: Incontinência Urinária, Método Pilates, Qualidade de Vida.