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REVIEW ARTICLE

Pelvic floor muscle training in groups versus individual or home treatment of women with urinary incontinence: systematic review and meta-analysis

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Abstract
Introduction and hypothesis Urinary Incontinence (UI) in women is a condition that becomes more common with age. Pelvic floor muscle training (PFMT) is recommended as a first option of treatment for women with symptoms of stress urinary incontinence (SUI), mixed urinary incontinence (MUI), and for some with symptoms of urge urinary incontinence (UUI). PFMT can be performed in groups, individually, and at home, and there is no consensus as to which of the approaches is more efficient for the conservative treatment of UI. The objective was to perform a systematic review comparing the effects of group PFMT vs individual or home training in the treatment of women with UI.
Methods Cochrane's recommendations for systematic reviews were followed. The inclusion criteria were that the studies had been carried out in adult women who suffered from UI and who underwent PFMT in a group.
Results Ten studies that fit the criteria previously mentioned were included in this systematic review. The meta-analysis showed that there was no difference when comparing PFMT in groups vs individual PFMT. However, when comparing PFMT in groups vs PFMT at home, the group intervention was more efficient in the treatment of UI.
Conclusion PFMT is an efficient technique for the improvement of the symptoms of female UI. When PFMT was supervised by a physiotherapist, no significant difference was noted when comparing group with individual approaches.

Keywords Physical therapy · Pelvic floor · Urinary incontinence

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Introduction

Urinary incontinence (UI) is defined by the International Continence Society (ICS) as "any involuntary loss of urine" [1]. This is a condition that becomes more common with increasing age, and it is more frequent among women compared with men. According to global estimates, in 2008 about 348 million people around the world had had some type of UI episode; projections for 2018 indicate an increase of 21.6 %, which means that this condition could affect up to 423 million people [2].

According to the symptoms, UI can be classified into different types. The most frequent types are stress urinary incontinence (SUI), in which urine is released involuntarily in situations of effort/stress; urgency urinary incontinence (UUI), in which there is loss of urine associated with urgency; and mixed urinary incontinence (MUI), in which loss of urine occurs both with effort and urgency [3].

All types of UI have many effects on the activities of daily life, sex life, social interactions, and the perception of health of those who experience its symptoms. Some studies suggest that MUI has the most impact on women's quality of life [4, 5].

Among the possibilities for conservative treatments for UI, pelvic floor muscle training (PFMT) should be recommended as a first option for the treatment of women with symptoms of SUI, MUI, and for some with symptoms of UUI. However, more studies are still necessary regarding the effects of long-term training [6].

According to systematic reviews by Ferreira and Santos [7] and Luginbuehl et al. [8], who analyzed the effectiveness of PFMT, the protocols used in the studies are very different. Despite the fact that strengthening the PFM is associated with an improvement in the symptoms of UI, the studies, in general, used instruments with very different outcomes. Because of that, it is not possible to confirm which PFMT program is more effective. However, self-reports of improvement are more consistent among women who underwent supervised treatments than those who did the training with little or no therapeutic supervision [9].

Regarding the form of intervention, PFMT with the goal of treating UI can be carried out in groups, individually or at home, and there is no consensus as to which of the approaches is more efficient for the conservative treatment of this symptomatology [10]. This study therefore has the goal of performing a systematic review comparing the effects of PFMT in groups vs individuals or at home for the treatment of women with UI.

Materials and methods

Eligibility criteria

This study followed Cochrane's [11] recommendations for systematic reviews. It includes experimental studies (randomized and nonrandomized) published in national and international journals. The inclusion criteria were that the studies had been carried out in adult women who suffered from UI and who underwent PFMT in a group.

Search strategy

The studies were selected from the following electronic databases: PubMed, Scopus, and SciELO, from the first articles published in the databases until June 2016. In addition, a manual search was done of the references of published studies on the subject. The complete search strategy used on PubMed can be seen in Table 1. There was no restriction with regard to language.

Selection of studies and data extraction

In the first stage of the selection, two authors—independently and in duplicate—reviewed the title and the abstract of the articles found with the search strategy. All the abstracts that did not give sufficient information regarding the inclusion and exclusion criteria were selected for the assessment of the complete article. In the second stage, the same reviewers independently assessed the complete articles and made their selection in accordance with the eligibility criteria.

The same reviewers—independently and in duplicate—extracted the data regarding the methodological characteristics, interventions, and results of the studies, using a standardized form. Disagreements were resolved by reaching a consensus or by a third reviewer. The outcome collected in the studies included was an improvement in the UI with the use of group PFMT.

Risk of bias assessments

Two authors (LF and LLP) independently assessed the risk of bias for the selected studies, considering the items established by Cochrane [11] for assessing risk of bias in randomized clinical trials: random sequence generation, allocation concealment, blinding of participants, blinding of outcome assessment, description of losses and exclusions, and intention-to-treat analysis. For each item the answer must be yes or no. Studies without a clear description of these items were also included in the systematic review.

Data analysis

After data extraction, the possibility of performing a meta-analysis with the studies using Review Manager 5.1 software (Cochrane [11]) was verified. A confidence interval of 95 % (CI 95 %) and $p < 0.05$ were considered to be significant. Statistical heterogeneity was assessed using the Chi-squared and I-square (I^2) tests, where values above 25 and 50 % were considered to be indicative of moderate and high heterogeneity respectively. Values approaching 75 % were considered to be highly heterogeneous in the studies.

Results

Description of studies

Using the search strategy, 1,198 studies were found. For 12 of these a detailed analysis of the entire article was carried out. Ten [12–21] studies were found to fit all the inclusion and eligibility criteria and were included in the review. Figure 1 shows the flowchart of the selected studies, Table 2 presents the characteristics of these articles, and Table 3 presents the risk of bias.

Of the 10 selected studies, 5 [12, 13, 16, 17, 21] compared PFMT in groups vs individuals; 3 studies [14, 15, 18] compared PFMT in groups vs at home; and 2 [19, 20] compared PFMT in groups vs individuals vs controls. The exercise protocols used in the selected studies were very different.

The total number of participants in the 10 selected studies [12–21] was 927 women and the mean ages in the studies ranged from 42–60 years old. Six of the 10 selected studies [14, 15, 17, 19–21] included only women

Table 1 Search strategy used on PubMed

1	"Pelvic Floor"[Mesh] OR "pelvic floor" OR "Floor, Pelvic" OR "Pelvic Diaphragm" OR "Diaphragm, Pelvic" OR "Diaphragms, Pelvic" OR "Pelvic Diaphragms" OR "Pelvic Floor Muscles" OR "abdomino-pelvic musculature" OR "perineal musculature" OR "Perineum"[Mesh] OR "perineum" OR "perineums" OR "Pelvis"[Mesh] OR "pelvis" OR "Pelvic Region" OR "Region, Pelvic" OR "perineal function" OR "pelvic floor contraction"
2	"Women"[Mesh] OR women OR woman OR "Women's Groups" OR "Group, Women's" OR "Groups, Women's" OR "Women Groups" OR "Women's Group" OR "Pelvic Floor"[Mesh] OR "pelvic floor" OR "Floor, Pelvic" OR "Pelvic Diaphragm" OR "Diaphragm, Pelvic" OR "Diaphragms, Pelvic" OR "Pelvic Diaphragms" OR "Pelvic Floor Disorders"[Mesh] OR "pelvic floor disorders" OR "Disorder, Pelvic Floor" OR "Disorders, Pelvic Floor" OR "Pelvic Floor Disorder" OR "Pelvic Floor Diseases" OR "Disease, Pelvic Floor" OR "Diseases, Pelvic Floor" OR "Pelvic Floor Disease" OR "Urinary Incontinence"[Mesh] OR "Urinary Incontinence" OR "Incontinence, Urinary" OR "Urinary Incontinence, Urge"[Mesh] OR "Urinary Incontinence, Urge" OR "Urinary Reflex Incontinence" OR "Incontinence, Urinary Reflex" OR "Urinary Urge Incontinence" OR "Urge Incontinence" OR "Incontinence, Urge" OR "Urinary Incontinence, Stress"[Mesh] OR "Urinary Incontinence, Stress" OR "Urinary Stress Incontinence" OR "Incontinence, Urinary Stress" OR "Stress Incontinence, Urinary"
3	Pelvic, training
4	Pelvic floor muscle training
5	PFMT
6	1 AND 2 AND 3 AND 4 AND 5

PFMT pelvic floor muscle training

with SUI, 2 [12, 16] included women with SUI and UUI, and 2 [13, 19] included any type of UI.

The methods used in the studies for assessing the functionality of the PFM were perineometry [19, 20], the Oxford Scale [14, 15, 18], and the PERFECT Scheme [19, 20]. To quantify urinary loss, the pad test [12, 14, 15, 17, 18, 20] was used. Voiding diaries [12–16] were used for verifying urinary frequency. For the analysis of impact on quality of life, the visual analog scale [12, 21] was used in addition to the King's Health Questionnaire (KHQ) [14, 17, 19–21], International Consultation Incontinence Questionnaire—Short Form (ICIQ-SF) [18], and the Incontinence Quality of Life Questionnaire (I-QOL) [15]. The Incontinence Impact Questionnaire (IIQ-7, short form) [12] was used for analyzing the impact of the treatment, and the symptom severity index [12] was used for analyzing the severity of the symptoms in the questionnaire.

PFMT in group vs individual PFMT

Five studies were eligible [12, 13, 16, 17, 21], which included 727 women with UI, 494 in the group PFMT and 233 in the individual PFMT group. Regarding the time of treatment performed in the study protocols, it varied from 3 weeks to

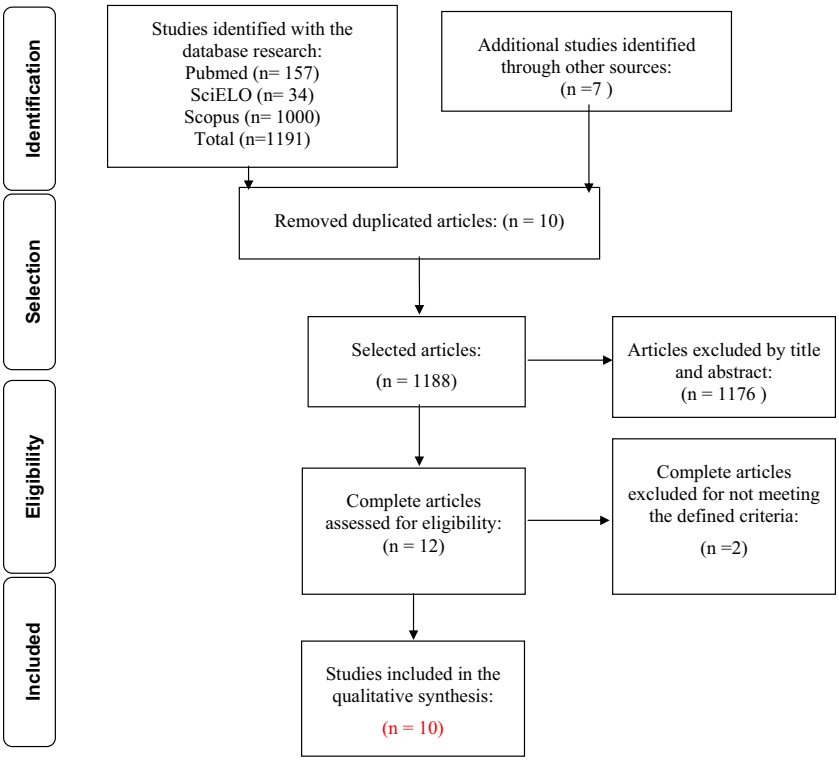

Fig. 1 Flowchart of the selected studies

Table 2 Characteristics of the studies included

Reference	Area	Study design	Sample	Mean age	Goal	Form of intervention/*n*	The correct contraction of the PFM was taught?	Assessment method	Inclusion criteria	Period of protocol	Outcome
Demain et al. [12]	Europe	Pilot study	39	50	Comparing the efficacy of group and individual PFMT on physical symptoms and QL in women with UI	PFMT in groups/(n = 20) × Individual PFMT/ (n = 19)	Yes	– Pad test – Voiding diary – Visual analog scale – Symptom severity index – Incontinence impact questionnaire (IIQ-7, short form)	SUI, UUI	14 weeks PFMT in group: 3/1-h sessions Individual PFMT: 45 min, once a week	Both individual and group PFMT are efficient for treating UI
Janssen et al. [13]	Europe	Randomized clinical trial	414	47	Comparing the effects of individual and group PFMT on UI	PFMT in groups/ (n = 313) × Individual PFMT/ (n = 101)	No	– Voiding diary	SUI, UUI and MUI	3 months PFMT in a group: 9/ 2-h sessions + at home protocol IndividualPFMT: 11/ 30-min sessions + at home protocol	Group and individual PFMT are equally as efficient and the improvement in UI remains after 9 months
Konstantinidou et al. [14]	Europe	Pilot study	22	47	Comparing supervised group PFMT and individual home PFMT in women with SUI	PFMT in groups/ (n = 12) × PFMT at home/ (n = 10)	No	– Voiding diary – Oxford – Pad test – KHQ	– Clinical and urodynamic diagnoses of UI – No previous treatment for SUI	12 weeks PFMT in a group: once a week + at home PFMT at home: followed up individually in hospital every 4 weeks	Group PFMT significantly improves the symptoms of UI and the quality of life compared with home PFMT
Zanetti, et al. [15]	South America	Randomized clinical trial	44	54	Comparing the efficacy of group PFMT with and without supervision of a physical therapist	PFMT in groups/ (n = 23) × PFMT at home/ (n = 21)	Yes	– Voiding diary – Pad test - Incontinence quality-of-life questionnaire (I-QoL)	– Clinical and urodynamic diagnoses of SUI	12 weeks PFMT in a group: twice a week, 45-min sessions + at home PFMT at home: PFMT at home with monthly assessment from a physiotherapist	Group PFMT had better results in objective and subjective assessments compared with home PFMT
Lamb et al. [16]	Europe	Randomized clinical trial	174	56	Comparing group and individual PFMT in terms of symptoms, QL, and costs. Investigating the effects of the preference of the patient on the acceptance and results of treatment	PFMT in groups/ (n = 111) × Individual PFMT/ (n = 63)	No	– Symptom severity index – Incontinence-related quality of life questionnaire – Perception of response to treatment – Costs of health services	SUI, UUI	3 weeks PFMT in a group: 3/ 1-h sessions in 3 weeks Individual PFMT: 3/ 1-h sessions in 3 weeks	Improvement of UI according to the SSI and IQOL, without statistically significant differences – 85 %: subjective benefits of the treatment slightly higher with individual PFM. – Group PFMT costs significantly less
			60	50			Yes	– Oxford		12 weeks	

Table 2 (continued)

Reference	Area	Study design	Sample	Mean age	Goal	Form of intervention/*n*	The correct contraction of the PFM was taught?	Assessment method	Inclusion criteria	Period of protocol	Outcome
Camargo et al. [17]	South America	Randomized clinical trial			Comparing group and individual PFMT	PFMT in groups/ (*n* = 30) × Individual PFMT/ (*n* = 30)		– Pad test – Voiding diary – KHQ	– Clinical and urodynamic diagnoses of SUI	PFMT in a group: twice a week/ 45 min Individual PFMT: twice a week/ 30 min	There was no difference between groups. Individual and group PFMT seem to be equally as efficient at improving SUI
Felicíssimo et al. [18]	South America	Randomized clinical trial	59	50	Comparing the efficacy of supervised and unsupervised PFMT on the treatment of SUI	PFMT in groups/ (*n* = 29) × PFMT at home/ (*n* = 30)	Yes	– Oxford – Pad test – ICIQ-SF	– Clinical and urodynamic diagnoses of SUI	8 weeks PFMT in a group: twice a week/ 50 min PFMT at home: at home; same protocol daily	Both supervised and unsupervised PFMT were efficient at treating SUI
Pereira et al. [19]	South America	Pilot study	45	60	Comparing the effects of group and individual PFMT in women with SUI	PFMT in groups/ (*n* = 15) × Individual PFMT/ (*n* = 15) × Control group/ (*n* = 15)	Yes	– Perineometry – KHQ – PERFECT	– Complaint of loss of urine – Never having undergone physical therapy for UI	6 weeks PFMT in a group and individual PFMT:12 sessions/ two weekly sessions/1 h Control group: the control group did not receive any treatment during the corresponding treatment time	Similar improvement for the clinical variables and satisfaction in both PFMT groups.
Nascimento-Correia et al. [20]	South America	Pilot study	30	60	Assessing the effects of group PFMT on women with UI with regard to QL and functionality of the PFM	PFMT in groups/ (*n* = 15) × Control groups/ (*n* = 15)	Yes	– Pad test – Perineometry – PERFECT – KHQ	– Complaint of loss of urine – Never having undergone physical therapy for UI	12 weeks PFMT in a group: 12 sessions/1 h/once a week Control group: the control group did not receive any treatment during the corresponding treatment time	There were differences between groups. Group PFMT was efficient in improving QL and PFM functionality
Soni et al. [21]	Africa	Randomized clinical trial	40	42	Comparing the effects of PFMT in groups and individuals on the gravity of UI and QL in women with SUI.	PFMT in groups/ (*n* = 20) × Individual PFMT/ (*n* = 20)	No	– Visual analog scale – KHQ	SUI	12 weeks PFMT in a group: 9/1-h sessions. Individual PFMT: one 30-min session a week	Both approaches are equally as efficient

QL quality of life, *PFM* pelvic floor muscles, *UI* urinary incontinence, *SUI* stress urinary incontinence, *KHG* King's Health Questionnaire, *ICIQ-SF* International Consultation Incontinence Questionnaire—Short Form

Table 3 Risk of bias analysis

Reference	Generation of random sequences	Allocation concealment	Participant blinding	Blinding of the outcome assessors	Description of losses and exclusions	Analysis of he intention to treat
Demain et al. [12]	Yes	No	No	Yes	Yes	No
Janssen et al. [13]	No	No	No	No	Yes	Yes
Konstantinidou et al. [14]	No	No	No	No	Yes	No
Zanetti et al. [15]	Yes	No	No	No	No	No
Lamb et al. [16]	Yes	Yes	No	Yes	Yes	Yes
Camargo et al. [17]	No	No	No	Yes	Yes	No
Felicíssimo et al. [18]	No	No	No	No	Yes	No
Pereira et al. [19]	Yes	Yes	No	No	Yes	No
Nascimento-Correia et al. [20]	No	No	No	No	Yes	No
Soni et al. [21]	No	No	No	No	No	No

3 months, with a weekly frequency of 1 to 2 times and sessions of 30 min to 1 h.

Two articles [13, 16] did not describe the protocols they used. One article [12] reports that the protocol included rapid and slow contraction beginning with five repetitions of each type, 10 times a day, with a variety of starting positions. One article [17] used two different protocols, one for the group PFMT and another for individual PFMT. The group was told to perform 10 × 5-s contractions, 20 × 1-s repetitions, and 3 × 10-s ones, followed by 5 repetitions associating MVC with cough. The participants, who were supervised individually, did 10 × 10-s contractions and 10 rapid contractions, alternating them, and 5 rapid contractions and 5 maintained ones, associating these with a cough. One article [21] used the same protocol for individual and group PFMT, varying the exercises performed throughout the sessions. They began with contractions maintained for 3–5 s, evolving to 20 s, with 3 series of 10 repetitions up to 60 repetitions, recruiting the transverse abdominal muscle, in different postures. The activities were supervised by a therapist.

PFMT in groups vs PFMT at home

Three studies were selected [14, 15, 18], which included 125 women with UI, 64 in the group PFMT group and 61 in the individual PFMT group. The time of treatment performed in the study protocols varied from 8 to 12 weeks, with a weekly frequency of 1 to 2 times and sessions of 45 to 50 min.

Two articles [14, 18] described the position in which the exercises were performed and did not provide the time period for maintenance of contraction or the number of repetitions. And one article [15] used a protocol with the following sequence of repetitions: 10 × 5 s, 20 × 2 s, 20 × 1 s, 5 × 10 s, ending with 5 contractions while coughing. The exercises were performed in the seated, standing, and supine positions. The PFMT in groups was conducted under weekly supervision and those carrying out PFMT at home only received orientation.

PFMT in groups vs individual PFMT vs controls

Two studies were selected [19, 20], which included 75 women with UI, 30 in the group PFMT group, 15 in the individual PFMT group, and 30 in the controls. The time of treatment performed in the study protocols varied from 6 to 12 weeks, with a weekly frequency of 1 to 2 times and sessions of 1 h.

Two articles [19, 20] provided the positions used in the protocols (supine, seated, lying down, and orthostatic); contractions varied from 5 to 10 s, with double time for resting, totaling 100 repetitions; in the second study, 10 contractions were performed and maintained for 6 s, with double time for resting, totaling 90 contractions. The PFMT in groups and individual PFMT were performed under supervision and control PFMT received no orientation.

Risk of bias

Regarding the 10 articles selected for this review, 4 studies [12, 15, 16, 19] had random sequence generation; only 2 studies [16, 19] concealed the allocation of participants; none of the 9 studies [12–20] blinded the participants; and three [13, 17, 18] blinded the outcome assessment. Two studies [13, 16] related to intention-to-treat analysis and 8 [12–14, 16–20] described losses and exclusions. These results, the analysis of the risk of bias, are shown in Table 2. Figure 2 shows that, generally, the studies included in this systematic review had a high risk of bias.

Results from the meta-analysis

Eight studies [12–18, 21] were used for the meta-analysis. Two of the studies included [19, 20] could not be part of the meta-

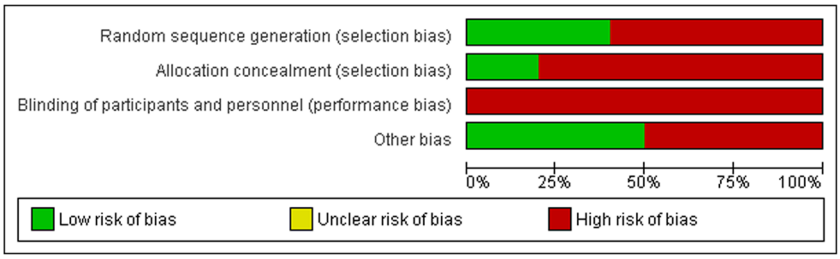

Fig. 2 Risk of bias analysis

analysis because their methodological designs were too different (PFMT in groups vs individual PFMT vs controls). Two meta-analyses were performed, comparing: PFMT in groups vs individual PFMT and PFMT in groups vs PFMT at home.

1. PFMT in groups vs individual PFMT

   When performing the meta-analysis of the five studies [12, 13, 16, 17, 21], we found no difference when comparing PFMT in groups with individual PFMT ($p = 0.37$). In this sense, both approaches improved the symptoms of UI and this is probably because both forms of intervention were supervised by a physical therapist. The statistical heterogeneity tests indicated (Chi-squared = 0.82 and I-squared (I^2) = *0 %*) that there was no heterogeneity among the studies (Fig. 3).
2. PFMT in groups vs PFMT at home

   The meta-analysis of three studies [14, 15, 18] showed that PFMT in groups had better results in the treatment of UI than PFMT at home ($p = 0.009$), that is, the intervention in a group supervised by a physical therapist was more efficient at improving the symptoms of UI. The statistical heterogeneity tests indicated (Chi-squared = 8.06 and I-squared (I^2) = 75 %) high heterogeneity among the studies. This high heterogeneity could be considered to be clinical, but we chose to ignore the heterogeneity, as we used a method with fixed effects (Fig. 4).

   In a general context, the studies included in this systematic review found that both the PFMT in groups and the individual PFMT are intervention strategies that are efficient for the conservative treatment of UI in women. However, when analyzing the studies that discussed PFMT carried out at home, without the supervision of a physical therapist, the results obtained were inconsistent, and more evidence for its effectiveness in the treatment of UI is necessary.

Discussion

This study was a systematic review comparing the effectiveness of PFMT in groups vs individual PFMT vs PFMT undertaken at home for the conservative treatment of female UI. The meta-analysis showed no difference when comparing PFMT in groups and individual PFMT, as both were efficient in the improvement of the symptoms of UI. However, when comparing group PFMT and PFMT at home, the group intervention was more efficient in the treatment of UI.

The assessment methods used by the studies were diverse, including assessment of the functionality of PFM, the quantification of urinary loss, and the measurement of its impact on the participants' quality of life, applied before and after the practice of PFMT individually/at home or in group. The assessment of the integrity and functionality of PFM and associated structures, such as the fascia and joints, is relevant as it allows the verification of the woman's ability to contract these muscles, in addition to registering alterations occurring throughout the therapeutic intervention [22, 23].

Generally speaking, the 10 studies [12–21] were aimed at verifying the influence of PFMT on the conservative treatment of female UI, comparing group and individual/at home interventions, with and without supervision, and with a control group. According to systematic reviews performed by Hay-Smith et al. [9] and Dumoulin et al. [24], PFMT may be recommended as a first option for conservative treatment of women with SUI or in groups of women with other types of UI.

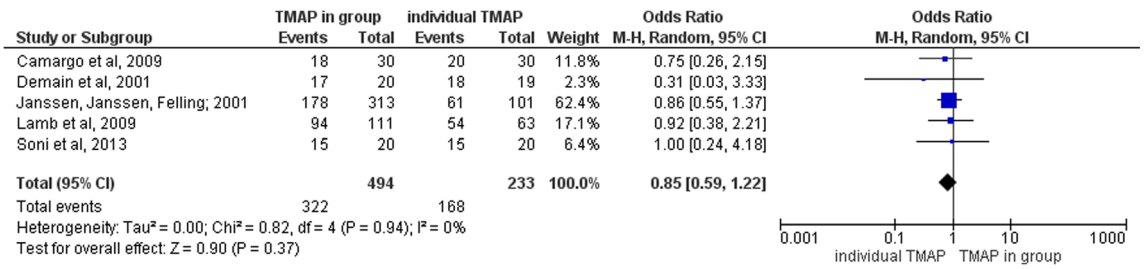

Fig. 3 Improvement in urinary incontinence symptoms after training of the pelvic floor muscles in groups vs individual

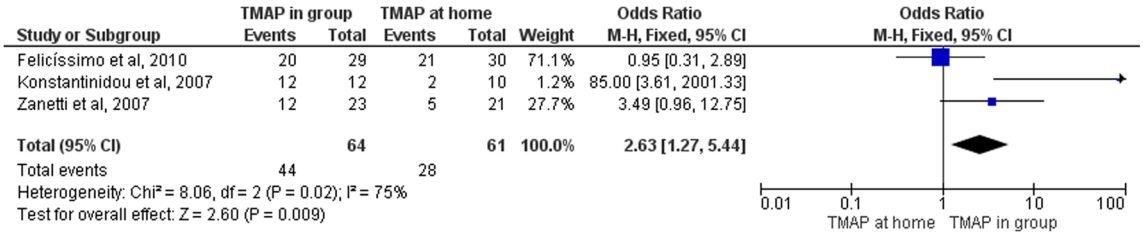

Fig. 4 Improvement in urinary incontinence symptoms after training of the pelvic floor muscles in groups vs at home

The treatment protocols applied to the studies included in this systematic review advocate the implementation of an exercise program including voluntary contraction of the PFM with the goal of improving muscular strength, resistance to fatigue, and the coordination of this muscle group. According to Ferreira and Santos [25], the increase in strength secondary to the PFMT, which occurs during the first 6 to 8 weeks is predominantly neural, and hypertrophy is a slower process, beginning at 6 to 8 weeks and possibly lasting for years. Regarding the period of treatment, the selected studies varied from 3 weeks to 3 months in the development of their intervention protocols, with a weekly frequency of 1 to 2 times. According to the recommendations of the ICS, the initial treatment should last for 8 to 12 weeks before re-evaluation and possible referral to specialists to verify if the patient has improved [26].

The PFMT protocols applied to the studies analyzed here varied with regard to the parameters of the period of maintenance of contraction, the number of repetitions and series, the period of rest between contractions and/or series, and the progression of the exercises. There was no consensus among the protocols regarding the number of repetitions, but the studies were based on the principles of muscle physiology, and the parameters are low speed, sub-maximum contractions maintained from 6 to 8 s, and rapid contractions in 3 series of 8 to 12 contractions [27, 28].

Probably, the fact that this systematic review did not find significant differences in the improvement of UI symptoms when comparing PFMT in groups and individuals is due to the information and orientation given to the participants regarding the function and activation of this muscle group by therapists who supervised the activities. This strategy may have contributed to the positive results found in the group and individual PFMT groups that did not occur in PFMT at home.

According to Hay-Smith et al., the practice of PFMT associated with information that facilitates the understanding of what to do and why allows the patients to understand that PFMT is essentially a self-managed program and that the results depend on their active participation [29]. A study by Berzuk and Shay also emphasizes the importance of knowledge about the function of the PFM and its activation, identifying a reduction in symptoms of PFM dysfunction and improvement in the quality of life of the participants [30]. Thus, the results obtained in this study lead us to believe that the success of any PFMT program depends on both the supervision of a therapist during the practice of the exercises and the correct contraction capacity of this muscle group, whether the treatment be conducted individually or in a group.

The biggest limitation of this systematic review was the fact that the studies used very heterogeneous protocols and instruments for the analyses of the outcomes, and also different types of study where some presented low methodological quality, which increases the risk of bias.

Conclusion

Despite the heterogeneity of the PFMT protocols and the great variety of collection instruments that were used in the studies analyzed in this systematic review, it was possible to verify, through a meta-analysis, that PFMT is an efficient technique for the improvement of the symptoms of female UI, both in groups and individually, and that there was no significant difference between the approaches. However, group PFMT can treat more women for a shorter time and at a lower cost, which makes it a viable choice for public health systems.

Compliance with ethical standards

Conflicts of interest None.

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