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**DOI: 10.1590/0034-7167-2016-0257**

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## Pelvic floor rehabilitation program: report of 10 years of experience

*Programa de reabilitação do assoalho pélvico: relato de 10 anos de experiência*

*Programa de rehabilitación del piso pélvico: relato de 10 años de experiencia*

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### How to mention this article:

Lopes MHB, Costa JN, Lima JLDA, Oliveira LDR, Caetano AS. Pelvic floor rehabilitation program: report of 10 years of experience. Rev Bras Enferm [Internet]. 2017;70(1):219-23. DOI: <http://dx.doi.org/10.1590/0034-7167-2016-0257>

Submission: 05-29-2016 Approval: 08-14-2016

### ABSTRACT

**Objective:** to relate the creation, experience of establishment and service performed in the Pelvic Floor Rehabilitation Program [(PRAP)], a project of the School of Nursing of University of Campinas (UNICAMP), developed at a health unit in Campinas, São Paulo, Brazil. **Results:** this Program appeared due to the high demand of patients with urinary incontinence (UI) and need of formation or qualification of professionals to serve those customers and multiply the actions at other health units. Nowadays, the PRAP is in its tenth year, and it has served 102 patients with UI and other dysfunctions of the pelvic floor and lower urinary tract, qualified 480 health professionals and stimulated researches. **Conclusion:** the preventive actions of pelvic floor rehabilitation are important areas of the nurse's performance and initiatives as the related ones contribute for the professional formation and practice based on evidences.

**Descriptors:** Rehabilitation Services; Nursing; Urinary Incontinence; Pelvic Floor Disorders; Lower Urinary Tract Symptoms.

### RESUMO

**Objetivo:** relatar a criação, experiência de implantação e atendimento realizado no Programa de Reabilitação do Assoalho Pélvico (PRAP), um projeto da Faculdade de Enfermagem da Universidade Estadual de Campinas (UNICAMP), desenvolvido em um centro de saúde de Campinas, São Paulo, Brasil. **Resultados:** este Programa surgiu devido à elevada demanda de pacientes com incontinência urinária (IU) e necessidade de formação ou capacitação de profissionais para atender esta clientela e multiplicar as ações em outras unidades de saúde. Atualmente o PRAP encontra-se em seu décimo ano de funcionamento, tendo, até o momento, atendido 102 pacientes com IU e outras disfunções do assoalho pélvico e do trato urinário inferior, formado 480 alunos, capacitado oito profissionais de saúde e estimulado pesquisas. **Conclusão:** as atividades preventivas e de reabilitação do assoalho pélvico constituem-se áreas de importante atuação do enfermeiro e iniciativas como a relatada contribuem para a formação profissional e prática baseada em evidências.

**Descritores:** Serviços de Reabilitação; Enfermagem; Incontinência Urinária; Distúrbios do Assoalho Pélvico; Sintomas do Trato Urinário Inferior.

### RESUMEN

**Objetivo:** relatar la creación, experiencia de implantación y atendimento realizado en el Programa de Rehabilitación del Piso Pélvico (en portugués, PRAP<sup>1</sup>), un proyecto de la Facultad de Enfermería de la Universidad Estadual de Campinas (UNICAMP), desarrollado en un centro de salud de Campinas, San Pablo, Brasil. **Resultados:** este Programa surgió debido a la elevada demanda de pacientes que sufren de incontinencia urinaria (IU) y necesidad de formación o capacitación de profesionales para atender a esta clientela y multiplicar las acciones en otras unidades de salud. Actualmente el PRAP está en su décimo año de funcionamiento, y ha atendido, hasta este momento, a 102 pacientes con IU y otras disfunciones del suelo pélvico y del tracto urinario inferior,

1 Programa de Reabilitação do Assoalho Pélvico.

además de haber formado 480 alumnos, capacitado ocho profesionales de la salud y estimulado investigaciones. **Conclusión:** las actividades preventivas y de rehabilitación del piso pélvico constituyen áreas de importante actuación del enfermero e iniciativas como la relatada, y contribuyen para la formación profesional y práctica basada en evidencias.

**Descriptores:** Servicios de Rehabilitación; Enfermería; Incontinencia Urinaria; Disturbios del Piso Pélvico; Síntomas del Tracto Urinario Inferior.

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**INTRODUCTION**

The urinary incontinence (UI) affects children, teenagers, women, men and older people. It is a common condition among women, with prevalence between 25 and 45%<sup>(1)</sup>, which leads to important physical, emotional, occupational, sexual and social limitations, causing negative impact on the quality of life<sup>(2)</sup>. The stress - or effort - urinary incontinence (SUI) is the most frequent type among this population, but the mixed incontinence (MUI) and the urge incontinence (UUI)<sup>(1)</sup> may be present.

Currently, the conservative treatment is considered the first option in the SUI therapeutic conduct. There is a set of available alternatives, which may be used singly or in association, as programs of training of the pelvic floor muscles, bladder training, electrostimulation, behavioral therapy and biofeedback<sup>(3)</sup>.

In early study of systematic review, with meta-analysis<sup>(4)</sup>, one confirmed that the exercises of training of the pelvic floor musculature are effective for the SUI treatment, being this condition the best option for resulting in increase of incontinent women's quality of life. Besides, evidences show that the exercises for the pelvic floor, if performed under professional supervision, at least weekly, presented better results when performed at home, results confirmed in another studies of systematic review<sup>(5)</sup>.

The surface or intravaginal electrostimulation of the pelvic floor muscles also obtained good results when compared to no type of treatment, once it improved the indexes of quality of life and the results of the pad test<sup>(4)</sup>. The vaginal cones, in turn, may be an alternative for the woman that does not contract the pelvic floor muscles properly, even performing exercises for strengthening. However, as their results were not well documented, it was not possible to determine whether they are superior to other treatments<sup>(4)</sup>.

This systematic review<sup>(4)</sup> suggests that the training of the pelvic floor musculature and the behavioral therapy should be the treatment first line for SUI, with subsequent association with biofeedback, vaginal cones and electrostimulation, approaches also recommended by the Brazilian Federation of Gynecology and Obstetrics [(FEBRASGO)].

In our clinical practice, we observe the frequent complain about UI among the women served by us at the health unity during the practical activity of the undergraduate nursing course. This perception was confirmed by study, not published yet, in which one observed, among women that attended the health unity to obtain the oncotic cytology examination result, that 31.9% presented UI. Despite this high prevalence, which corroborates the literature data, study<sup>(6)</sup> showed not to exist, among the health professionals (physicians and nurses), concern on the routine investigation of UI symptoms, and,

when they do so, they do not know which conduct to adopt before the problem or how to conduct the case properly. In this sense, we consider that the teaching in woman's health area should include this theme, aiming at a more extensive formation that meets the need of the customers served.

Furthermore, most women served in basic health unities [(UBS)] with complaints of UI know no kind of treatment for UI and/or do not seek professional help<sup>(7)</sup>. Thus, based on these studies, we observed the importance of mobilizing the efforts to assist the women with UI, and qualify health professionals for the service. In this sense, we made the proposal to create the Pelvic Floor Rehabilitation Program [(PRAP)] at a health unity in the municipality of Campinas, SP, which allowed to assist those women, train professionals and provide formation to nursing undergraduate students and post graduate students (specialization in stomatherapy, master degree, doctorate and post doctorate).

Progressively, the proposal has been amplified to other users as men with postprostatectomy UI and women with other pelvic floor disorders, as vulvar pain and pelvic organs prolapse.

Before these considerations and the positive results via this initiative, the present article aims to present report on the Pelvic Floor Rehabilitation Program (PRAP), a project of the School of Nursing of University of Campinas (UNICAMP), which soon will turn 10 years old.

**OBJECTIVE**

To relate the creation, experience of establishment and service performed in the Pelvic Floor Rehabilitation Program (PRAP), developed at a health unity in Campinas, São Paulo, Brazil.

**RESULTS****History of PRAP creation**

Considering the relevance of the problem and the fact that the conservative treatments should and must be recommended by the nurse, since 2006 the theme "pelvic floor rehabilitation" is part of the content and the program of Nursing for Woman's Health Assistance discipline, of the Undergraduate Nursing Course of University of Campinas (UNICAMP). Considering we did not have an adequate field for the practice, in 2007, with support from the nurses and coordinator of a health unity in which one of us had been acted for many years, one presented the project of the PRAP establishment to the Health Secretariat of the municipality of Campinas, which approved it promptly.

The proposal of the PRAP establishment at a health unity in Campinas, SP, was idealized by a teacher from the School of Nursing of UNICAMP, coordinator of the project, who is stomatherapist

and specialist in obstetrics, with the collaboration of two obstetrics nurses, one of them with previous formation in physiotherapy and being specialist in pelvic floor rehabilitation and urinary incontinence treatment, both being tutored for their master's degree at the time. All motivated by the increasing demand of women with UI complaints during nursing appointments.

Besides the three nurses, there was initial participation of other stomatherapist nurse in the elaboration of the project, but, due to other work tasks, she has not participated in the PRAP establishment. In the course of time, nurses and professionals from other areas, as physiotherapists and physical educator, then graduation courses students, integrated the team and, after one year of its establishment, the program had four nurses, two physiotherapists, one physical educator and one graduation student.

The health unity chosen for the PRAP establishment received, since 1990, students for practice activities for the woman nursing assistance of the School of Nursing of UNICAMP, had physical structure and location adequate to the program establishment and, besides, the proposal had the support from the coordinator and other institution professionals.

Therefore, one mobilized all efforts in order to discuss, through meetings, how this proposal could be developed. The initial objective was to promote specialized and qualified service to women with UI and to train/qualify nurses and undergraduate and graduate students of UNICAMP as them to disseminate this knowledge beyond the walls of the academic community.

The School of Nursing of UNICAMP, since 2006, offers the specialization course in Stomatherapy, a specialty that exists in Brazil since 1980. It is a *latu sensu* nursing practice graduation course directed to the care of people with ostomies, wounds, fistulas, drains, catheters and anal and urinary incontinence.

The stomatherapist is the professional qualified to establish a preventive and rehabilitation program in relation to the pelvic floor disorders, via the following actions:

to orientate the performance of vesical and/or defecation daily report for the foundation of future conducts; to orientate and establish vesical and/or intestinal training, for vesical and intestinal reeducation; to orientate and establish the clean intermittent bladder catheterization, preparing the patient and his/her caretaker for self-care; to orientate and perform the program of perineal exercises, therapy with vaginal cones and electro stimulation for strengthening of the pelvic floor musculature, as it was already mentioned; to perform biofeedback to provide the patient acknowledgment of the anatomic structures to be strengthened during the performance of the perineal exercises, and to orientate the use of vaginal pessaries to correct pelvic organs prolapse<sup>(8)</sup>.

Thus, the PRAP also aimed to offer a practice training field for Stomatherapy course students.

However, not only the stomatherapist nurses can serve people complaining of UI, but also the ones who act in urology, gynecology or obstetrics can perform this service, as long as they are qualified and/or have received proper training. In this manner, the program shall include students from specializations courses in other areas which may be offered by the School of Nursing.

### Material resources, instruments and service protocols

Once determined the main objective of the project, which would be to develop a pelvic floor rehabilitation program for women served at the Health Unit, the second step was the selection of the materials and equipment that would be used throughout the service.

Thus, via an extension project, one obtained resources from the university and purchased the following equipment: wood sticks, therapeutic balls of 65 cm (Swiss ball), set of vaginal cones, precision electronic balance, perineometer, (biofeedback per precision), electrostimulation equipment, surface silicon carbon electrodes, vaginal and rectal probes. Besides the mentioned equipment, one also purchased consumables as: vinyl gloves (for use in case of allergy to latex), medicine glass, conductive gel, non-lubricated condoms and sanitary pads. The health unity provided small mattresses, disposable paper sheets and latex gloves

One also selected the tests, the techniques and the instruments of data collection that would be used during the service, namely:

- Pad test: Used to quantify the urine volume lost during the UI episodes and evaluate the severity of the urinary loss. One uses the provocative test of 1 hour or test for 24 hours<sup>(9)</sup>.
- Bladder diary: It is the record of the volume and type of liquid ingested, volume released and the urinary events that occurred in the period. One evaluates records of three nonconsecutive days. The instrument for record is delivered to the patient in the first appointment, during and after the treatment<sup>(1)</sup>.
- Questionnaires for evaluation of quality of life: One applied three quality of life questionnaires normally used and recommended for evaluation of the UI treatment, before starting and when finishing the treatment, namely: ICIQ-SF (International Consultation on Incontinence Questionnaire – Short Form), KHQ (King's Health Questionnaire) and SF-36 (Medical Outcomes Study 36 – Item Short-Form Health Survey).
- Evaluation Form: One developed and validated a specific evaluation form called "Instrument for Evaluation of Lower Urinary Tract and Pelvic Floor Disorders" that, besides sociodemographic data, urinary complaints and risk factors related to UI, presents the following information:
  1. Perineum evaluation: state of the skin and mucus membrane, lesions presence, excoriations, vulvovaginitis, vulva trophicity, scars and varicosities; vulvar opening; anovulvar distance and dystopias presence.
  2. Perineal conscience: one requests the woman to contract the perineum (via a verbal stimulus of "holding in the feces").
  3. Mensuration of the pelvic floor muscles strengthen [(MAP)]: performed with the woman in gynecological



position, one has to introduce the index and middle fingers for 3 to 4 cm inside the vagina and observe the anterior and posterior vagina walls, as well as if the portions of the MAP are symmetric and if there are adherences, lesions or atrophic areas. Next, she should be asked to contract and maintain the MAP contraction and gradates the contraction according to the PERFECT scheme (power, endurance, repetition, fast, every, contractions, timed)<sup>(10)</sup>.

During the assistance, the women are clarified on the physical and physiologic anatomy of the MAP and pelvic organs and their relation with UI, in simple and accessible language, and oriented on the need of habit and behavior changing (proper intake of liquids and insoluble fibers, urination in gaps of at least two hours, to avoid food and beverages that irritate the vesical mucus membrane and others), according to the information collected in the evaluation form. After the initial evaluation, one schedules individual or group service, with once-weekly frequency.

The program adopted is compound of three daily series, of, in the maximum, 10 slow contractions, that is, muscle contractions with progressive increase of sustenance of 10 seconds, followed by a period of relaxation twice superior than the period of contraction, and 10 fast contractions, with 2 seconds of relaxation. These series of perineal exercises are performed when the person is standing, sitting and laying down<sup>(1)</sup>.

Besides exercises of pelvic floor proprioception, diaphragmatic stretching and breathing, at the end of each session there is a functional training of the MAP, where the woman contracts the MAP before efforts as cough, sneeze and weight-lifting, and maintains this contraction up to the end of each effort. The duration of the treatment is 12 weeks, with weekly sessions assisted by the professional. Moreover, the client is oriented to practice the perineal exercises at home, three daily routines of 10 slow and sustained muscle contractions (according to the performance obtained in the evaluation and with the progress of the treatment) and 10 fast muscle contractions. From the fifth training session, the vaginal cones may be used with progressive increase of weight, which also shall be used at home, according to the patient's response in relation to the pelvic floor musculature strengthening.

The electrostimulation is performed in cases of hyperactivity of the detrusor muscle and when the woman are not able to contract the MAP, that is, if during the evaluation of the strengthen of the MAP their result is "zero", according to the Oxford strength scale<sup>(10)</sup>. Biofeedback, in turn, is indicated to help her to realize if she is or not performing the contraction of the MAP correctly.

The evaluation of the strength of the MAP is performed before initiating the training, and reevaluated in the eighth and twelfth sessions. After the treatment termination, 30 days after the discharge, the women return to reevaluation of the strength of the MAP and clinical complaints. In this moment, they are oriented to maintain the perineal exercises at least once per week, and return after three and six months for evaluation of the results.

The women that do not have the profile for the service proposed or are resistant to the conservative treatment are sent to the gynecologist at the health unit or to services of reference in urology.

### Assistance performed and human resources formations

Nowadays, the PRAP is in its tenth year of operation, having served, so far, 99 women and two men, between 37 and 77 years old, and nursing diagnoses of SUI, UUI, SUI and UUI (condition also known as mixed UI), Overflow UI, impaired urinary elimination and anal incontinence. People with enuresis, nocturia, genital prolapse, urethral diverticulum or with demand of sexual function increase and proprioception were also assisted. Only five cases needed to be sent to another specialists.

The people that joined the PRAP have been reporting improvement or disappearance of the symptoms. Therefore, the initial results indicate that the program is reaching its objectives of assistance and education, for the health unity has been practice field for both the undergraduate students and the *lato* and *stricto sensu* graduate ones. Up to this moment, 401 nursing undergraduate students; 69 students from the Stomatherapy specialization course; 10 graduate students (master's degree, doctorate and pots doctorate); four nurses, two of them being stomatherapists; two physiotherapists and two teachers from the School of Nursing of UNICAMP have acted in the PRAP.

Furthermore, we received 12 students from the Stomatherapy Specialization Course of Universidade de São Paulo (USP) in visit to the unity to observe the appointments.

Because the Graduate Program in Nursing of UNICAMP is multi professional, other professionals as physiotherapists and physical educators, following the example of the ones who already integrate the project, shall be qualified to serve the people with UI complaints.

Based on this program, four undergraduate nursing course theses were developed, with the themes: women's participation in the conservative UI treatment, sociodemographic profile of the participants of the PRAP, evaluation of quality of life and conservative treatment of the urinary incontinence, and one final paper from the course of Stomatherapy on the validation of the "Instrument for Evaluation of the Lower Urinary Tract and Pelvic Floor Disorders". Besides those, eight master's degree theses, six doctorate's dissertations (of which, two in progress) and one post doctorate study related to the themes urinary incontinence, lower urinary tract disorders, dermatitis associated to incontinence and interstitial cystitis were developed.

One highlights, thus, in this program, activities related to the teaching, research and assistance. This proposal, which seems to be pioneer in our country, shall motivate the establishment of similar initiatives in other locations, contributing for the expansion of the nurse's activities in women's health and pelvic floor rehabilitation areas.

### FINAL CONSIDERATIONS

The lower urinary tract and pelvic floor disorders, for being conditions of high prevalence, especially among women, with negative repercussions in several dimensions of quality of life,

request specialized assistance based on current researches, on evidences. This way, rehabilitation programs, as the report, are relevant not only for the assistance, but also for the formation of human resources and development of the knowledge on the area.

The PRAP, by spreading the nurse's knowledge and stimulating the professional service, tried to reach quality assistance and fortify the practice based on evidences. We expect that this report motivates the creation of other similar services

inside and outside our country, and contributes for the expansion of the nurse's performance in this area.

## FUNDING

This project was supported by the Pro-Rectorate of Extension and Community Affairs [(PREAC)] of University of Campinas (UNICAMP).

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