Abstract

Physiotherapy not only has become an effective treatment in pelvic floor impairment but also a preventive method that involves health promotion. There is a wide range of physiotherapeutical techniques to approach pelvic floor impairments. Pelvic floor is a set of muscles that can weaken due to several causes. When that happens, different dysfunctions may appear, such as urinary incontinence. In Spain there is a high prevalence of this dysfunction, and even though physiotherapy has acknowledged its effectiveness in these issues, it is still poorly implanted in Health Services.

KEY WORDS: urinary incontinence, pelvic floor, physiotherapy, Balearic Islands.

Introduction

For a long time, Urinary Incontinence (UI) has been treated as an underlying symptom of a primary illness. Nevertheless, its high prevalence and the consequences that derive from it have lead us to treat it as a real public health problem [1]. There are many international agencies such as World Health Organisation (WHO), the International Continence Society (ICS) and national agencies such as the Spanish Gynaecology and Obstetrics Society (SEGO), the Spanish Urology Association (AEU), the Pelvic-perineum Physiotherapy Spanish Society (SEFIP) and the National Incontinence Observatory (ONI), among others, that strongly defend on one hand that UI in women is a disease that has to be treated and on the other hand that the most common causes that cause it should be prevented [2]. They also state that, even though life of those women who suffer it is not in danger, it affects their quality of life negatively [3].

UI can affect population in general, independently their age or sex. There are different types of UI. They are classified by their etiology and severity. This paper is exclusively focused on feminine urinary incontinence, specifically on those types that are susceptible of being prevented or cured by Physiotherapy treatment. In this sense, these incontinences are effort urinary incontinence (EUI), urge urinary incontinence (UUI) and mixed urinary incontinence (MUI). Their appearance is related to dysfunctions of support structures of any pelvic viscera. The pelvic floor (PF) is the most important. Pelvic floor is a set of muscles and fascia that enclose pelvis underneath. It accomplishes different functions. Pelvic floor muscles can weaken due to different causes. When that happens, it can no longer perform effectively their functions. The most frequent dysfunction of the pelvic floor (or the main consequence of its weakness) is UI.

UI is underdiagnosed [4] and undervalued [1], and it doesn't receive proper attention even though the importance of the problem it represents. Despite all the technological and human resources available, neither any of the UI stages are approached in an efficient manner in Spain nor target population is achieved. Educational programs for health developed at primary attention do not include UI. Prevention barely appears and treatment criteria aren't even alike.

On the other hand, UI does awake great interest on laboratories and enterprises that commercialize absorbent pads or drugs, which are sheer palliative. Neither do the media and advertising let go a commercial chance. According to WHO data [5, 6], there are over three million persons who suffer from UI in Spain. Each one of these people use several pads every day [7], so they have become a desirable economic entrance.

It has to be highlighted that many UI studies are being funded by these laboratories. Nowadays, legal frame protects the rights of pharmaceutical benefits for incontinent women [8], drugs and absorbent pads, but there is no policy in Spain focused on diagnosis or prevention [9].
Meanwhile, in some other European countries such as France, Belgium or Switzerland, UI is prevented in an institutionalized way since the eighties [10, 11].

Usually, conservative treatment is reduced to drugs prescription that diminishes the symptoms in some types of UI. Few times is Physiotherapy treatment the chosen option. However, there is backup evidence of perineal Physiotherapy [12, 13]. It is an effective and efficient treatment because it can provide results at a low expense and it has no side effects [14, 15]. Depending on the severity of symptoms or the failure of conservative treatment, the next option is surgery.

In the Balearic Islands there is a chance of pharmacetical and surgical treatment whereas the Physiotherapy treatment is not drawn on.

Two Majorcan state hospitals, Son Espases and Son Llàtzer, were the first ones in the Balearic Islands to introduce perineal physiotherapy treatments, yet ten years ago. Even though there is plenty of space, equipment and qualified staff, only a few patients get physiotherapeutic treatment. Physiotherapy department of these two hospitals have more than twenty physiotherapist in its crew, but only one or two of them perform this specialty, and only part time. Patients go referred from their family doctor or from their midwife to urology and/or gynaecology to end in rehabilitation, where somebody will decide if she is susceptible of getting treatment. More recently, perineal physiotherapy treatment has been included in Manacor and Inca hospitals. There is no consensus either protocol among these hospitals to decide priority, techniques or number of weekly sessions to be done.

In Menorca there is no perineal physiotherapy treatment in public health. Neither rehabilitation doctors, nor clinical services director of the referral hospital Mateu Orfila think of it as a priority.

In Ibiza, Physiotherapy department of the referral hospital Can Misses, just as Majorcan hospitals, have some weekly hours for attending patients with severe pelvic floor diseases, usually UI. Moreover, in some primary attention centres, treatment in groups is offered, consisting in hypopressive exercises.

In Formentera there is no perineal physiotherapy service as the hospital only has one physiotherapist.

In general, when symptoms are incipient, there is no room for this kind of patients, and even less for those who are interested in prevention.

The other option are private hospitals and private specialized physiotherapy offices, which are very scarce and, obviously, not accessible to all patients.

UI prevention should be taken into account in those periods or situations described as risk factors: pregnancy, delivery, postpartum and menopause [16–19].

In primary attention, where all promotion, education and prevention for health should be done, no effort is expent in UI, but recent initiative of some centre in Ibiza. Some midwives and gynaecologist explain guidelines and recommendations to their patients. But there is no assessment or formal treatment when there is a pathology neither there is specific prevention. We could say that guidelines and recommendations depend on the training and will of each one of the health professionals crew. We cannot forget the few time there is available to attend each patient (there is a general complaint on Primary Attention personnel about the scarce time there is per patient).

There are resources but they are neither developed nor implemented in a systematic way. Moreover, the main problem is still that very few women seek for attention directly to health professionals, and very few health professionals ask directly for this problem to their patients. The urigynecology board of the Official Association of Physiotherapists in the Balearic Islands (Colegio Oficial de Fisioterapeutas de les Illes Balears) has conducted different actions in order to promote perineal physiotherapy and to sensitize population since 2007. It has published a informative triptych that has been sent to all medical community in Primary Attention. Talks and workshops have been done for both health professionals and women. Most of them declared not having asked (health professionals) or not having sought (women with UI).

Prevalence

UI prevalence is changeable and is unsettled. That happens because epidemiological studies vary when it comes to UI definition, UI types and diagnostic test used [1, 20, 21]. Furthermore there is variability depending on the range of age and sex used in the sample used. Another variability cause is the country which is studied. Western countries have the highest prevalence rates [22, 23, 26]. Bearing that in mind, we should highlight the WHO as a resource. In one paper about UI, it reflected the increase of the number of incontinent patients in European countries between 1997 and 2003. In Spain there are more than three million people suffering from it [1, 5]. Likewise, the prevalence of other pelvic floor dysfunctions are remarkable as well, such as faecal incontinence, chronic constipation, dyspareunia, anorgasmia and genital prolapse.

Background and theoretical frame

Women urinary incontinence has already been described in a wide manner, in some aspects such as prevalence, risk factors and different approach treatments. There are many studies that relate UI and its impact on the quality of life of the persons who suffer it [3, 27]. Nevertheless, even though there is evidence of the shortage medical seek from women who suffer it [1, 4, 5, 20, 21], there are not many studies about the causes of this behaviour. Women who seek for help are few, and even when they do it, it’s too late (sometimes they do it years after the beginning of the disease [21], so the treatment gets very difficult.

In the last decade, qualitative studies have been done. They try to answer this question, and there can be classified some reasons. The most frequent ones are that UI
is seen as something natural, or consequent to pregnancy and delivery, or something inevitable when aging, or that it has no treatment and it is shameful to seek for help [17, 21, 28–31].

Reymert et al, in 1994, studied a group of Norwegian women with UI, close to menopause. Most of them concurred that the cause they didn’t seek for help was that they considered it normal or natural at their age.

Palmer et al, in 1999, interviewed more than one thousand incontinent women in Baltimore, to conclude that most of them didn’t seek for help as they didn’t acknowledge there was a chance of treatment.

Lepiere et al, in another study published in 2007 where 382 Canadian women were involved with UI during pregnancy and after the first six months of delivery, concluded that the reasons for not seeking for help were that they considered it normal and/or shameful. Authors consider that UI is still nowadays a taboo.

Horrocks et al, in 2004, conducted a qualitative study in Bristol, and thoroughly interviewed 20 incontinent women who had not sought for attention. Conclusions were the same. They hadn’t consulted for shame and for believing that UI is something natural in women when aging. These women get isolated and leave their social life to hide the problem.

It is true that participants of these studies feel identified with some of these statements, but interviews are closed and answer options are given, so it cannot be possible to go deeper in these qualitative aspects or to answer others.

Ferri Morales et al step forward and in 2003 published the results of a qualitative study where discussion groups are made in order to learn different experiences of women with UI. Conclusions are that help is not sought for shame and because UI is considered something natural, but there appear other reasons that are not strictly object of research: health system does no offer a different solution from the one they apply on their own and because the solution that is being offered (drugs and surgery) is not satisfactory [10].

Studies are focused in acknowledging the causes for lack of consulting by women with UI, laying all the responsibility on them. It is necessary to find out the role health professionals play in the causes of low consultation by women with urinary incontinence. Already in the past nineties decade, the white book of urinary incontinence [17] recommended a greater participation of those. Other studies point out the need of a more active engagement of health professionals in order to detect earlier UI [1, 4, 5, 10, 32].

Salinas Casado et al, in 2010, state that only in 10% of all UI cases, medical staff had searched for its existence, and in one of each five cases no diagnostic nor therapeutic measures were adopted.

Martínez Saura et al, in 2001, cut down to 6% the cases of UI that received any kind of assessment and medical assistance.

Despite all the existing evidence, yet nowadays, the same recommendation in the National Observatory of Inconstancy is being made twenty years later: there is a need of a proactive attitude from the medical staff [9].

Anatomopsychological issues

Pelvic floor is a set of muscles and fascias that enclose underneath lesser pelvis. There can be distinguished two levels. One is located deeper and is known as pelvic diaphragm (it has a correlation with the thoracic diaphragm). The other layer is more superficial and is called perineum.

Therefore, pelvic floor supplies support for all the viscera located in the lesser pelvis. These viscera are stowed one over another, contributing with a hovering and partition system to the stability needed to accomplish its functions. Stability is possible too, thanks to the adherence of viscera amongst them, and to the holding up and buffering that pelvic floor performs.

Pelvic floor main functions are [33]:

- buffering and holding up the low part of the abdomen. It preserves the integrity of the pelvic organs (bladder, uterus and rectum), holding them up.
- evacuation: it controls the urethral and anal sphincters, keeping both urinary and faecal continence.
- obstetric: it plays a primordial role in the different phases of delivery, such as the expulsive phase.
- sexual: it influences on sensitivity and eases orgasm [34].

Pelvic floor weakness is directly related to the loss of some of its functions. In effort urinary incontinence it is due to incomplete closure of the sphincter. It is a failure of it in front an intravesical pressure increase, which leads to a intraabdominal increase of pressure [35].

All these, added to the urethra modifications (tone decrease, loss of structure elasticity and lack of strength to block perineum) are at last, the physiological explanation of urine leakage.

These disturbances commonly trigger pathology associated to pelvic floor. Usually effort urinary incontinence is associated to prolapses and some kind of sexual dysfunction.

Physiotherapy treatment

Not only can Physiotherapy provide specific treatment to pelvic floor dysfunctions but also can perform prevention and health promotion.

Implementing measures such as early diagnosis to urinary incontinence in primary attention and educational workshops during pregnancy and in postpartum (both pregnancy and labour are some main risk factors in pelvic floor dysfunctions), urinary incontinence prevalence could be cut down.

Perineal physiotherapy has its origins in 1948, when the North American gynecologist Arnold Kegel [18] proposed exercises for re-educating Pelvic Floor with voluntary and repeated contractions.

Not until the seventies did this discipline start to develop in Europe as well. Alain Bourcier introduced
in France the concept of urogynaecological and colo-
rectalproctological physiotherapy. He promoted education
and research for physiotherapist in this field. Later, phy-
siotherapists like Guy Valancongne, Dominique Grosse
and Pierre Minaire in France, Marcel Caufriez in Bel-
gium, and J. Laycock in United Kingdom have contribu-
ted to scientific development of perineal physiotherapy
and have taught generations of physiotherapist of many
nations, including Spain.

Perineal physiotherapy consist in an amount of behav-
ioural, instrumental, and manual techniques. Their aim is
to restore the control and quality of voluntary contraction
of pelvic floor muscles, the visceral static and viscoelastic
properties of perineal tissues. This targets are in order to
prevent, treat and improve the urogynecoloprotological
dysfunctions. UI is the main one [13, 14, 33].

The amount of techniques that physiotherapy offers
is wide, and the choice of one depends on the assessment
of each case. It is a cheap treatment with very few side
effects. It can usually bring good results [10] as long as it
is suitable and stabilised terms are accomplished. Patient
involvement is essential. Not only it is useful in the treatment of some pelvic floor dysfunctions but also it is fundamental in
the prevention of these dysfunctions. Some of the risk fac-
tors described are pregnancy, delivery and menopause,
among others, so that’s why it is important to perform
during these periods. From the eighth month of postpar-
tum, a pelvi-perineal assessment should be done system-
tically [11, 36] and according to it, schedule physio-
therapy performance.

Before physiotherapy treatment there’s always an
information and education lap. Treatment success depends
on it [33]. It has been confirmed that half of the women
who attend to physiotherapy consult does not know how
to voluntary contract pelvic floor muscles [14]. Training
and learning from manual techniques obtains better results than explaining those in writing or orally [37].

**Manual techniques**

Manual treatment is intracavitary (intravaginal or intraa-
nal). It is important to individualize treatments according
to the results of a previous physiotherapeutic assessment.
Manual intervention allows us to re-educate muscle tone,
strength, resistance and fatigability of pelvic floor.

Other manual techniques are stretching, perine-
al massage, Cyriax techniques (deep transverse friction
massage) and trigger point techniques (for relaxing
hypertonic points).

**Intracavitary or intravaginal devices**

Vaginal cones: it is a set of five plastic cones that are used
as a tampon. Its weight ranges from 20 to 70 gr. It is used
in a progressive way, starting by the lighter one. To avoid
it sliding from the vagina, muscles have to contract [13,
33]. Some authors like Caufriez or Bo, prefer other devi-
ces rather vaginal cones such as the ben wa balls.

Ben wa balls: these are usually two balls joint by
a string (it is recommended to throw one away, but nowa-
days only one ball is starting to be commercialized). In
its inner core there is a smaller ball. The ball remains
inside the vagina like a tampon, and the woman should
carry it during her everyday activities. With movement,
the inner ball moves producing a vibration that stimula-
tes vaginal vibroreceptrors. It leads into the contraction
of the involuntary smooth muscles of the vagina. On the
other hand, the weight of the ball stimulates the barore-
ceptrors of the perineal muscles, leading into an increase
in the muscle tone [13, 33, 39–41].

**Lumbo-abdomino-pelvic re-education**

Besides the analytic work of the different structures
involved in the pelvic floor dysfunction, Physiothera-
py counts on a global work that pretends to harmonize
and recover both muscles and static attitude. The hypo-
pressive exercises described by Caufriez [38] consists in
a series of active positions. Their aim is to tone fibres
type I of the abdominal girth and pelvic floor, diminish-
ing the intraabdominal pressure underneath zero. This
is the reason these exercises are specially indicated on
patients with effort urinary incontinence [11, 33, 39].

There are authors that only develop those exercises
created by Kegel, improving and including them into
intensive and supervised programs: pelvic floor recupe-
ration exercises (RMSO) [37].

**Instrumental techniques**

Electrostimulation: the aim of this technique in effort
incontinence is to increase the capability of contraction
of the pelvic floor muscles. In urge incontinence it tar-
gets to relax the detrusor urinae muscle. A current is
applied through an electrode that has the shape of a vagi-
nal or rectal probe. The principles are just the same of
any other muscle recovery work. This is done by stimu-
lating the aferent fibers of the Pudendal nerve in the first
case or by stimulating the eferent fibers of the Pudendal
nerve in the second case [13, 33, 42].

Biofeedback: it is an active technique of feedback. It
is interesting because it's focused on the awareness of
the pelvic floor muscles [11, 14, 42]. This device can be ei-
ther electromyographic or manometric.

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