

The role of the urotherapist in the care of patients with pelvic floor disorders

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Abstract

Background: To improve the management of healthcare requirements of pelvic floor disorders (PFDs) in adult patients, interprofessional collaborations are emerging. The aim of this study is to describe and evaluate the activities of a urotherapist in adult patients with PFDs. **Methods:** The prospective observational study was carried out at the Department of ObGyn at the Cantonal Hospital Winterthur/Switzerland, from July 2016 to June 2018. The activities of the urotherapist were assessed with respect to parameters such as, number of consultations, type of counselling, time frame of consultations and therapy as well patient satisfaction. Demographic and clinical data were collected by self-administered questionnaires and electronic medical data systems. **Results:** 1709 patients were examined by urogynecologists. Of these patients, 514 (30%) were subsequently referred to a urotherapist. 58% of the 514 patients were over 65 years old. The most common PFDs were complaints about increased bladder sensation such as an overactive bladder, recurrent urinary tract infections, chronic cystitis and pelvic pain syndrome in 221 patients (43%); the second most common was pelvic organ prolapse in 151 patients (29%). The average number of urotherapist consultations per patient was 3 . In the group with >5 consultations, 59% were patients with increased bladder sensation. The most common type of consultation was phone counselling (59% of all activities). **Conclusions:** Increased bladder sensation related complaints are chronic problems that result in the highest numbers of urotherapist consultations. Interprofessional collaborations between urotherapist, as a specialist nurse, and urogynecologist should be implemented in urogynecological units and further developed in the future.

1. Introduction

Pelvic floor disorders (PFDs) including urinary incontinence, pelvic organ prolapse and fecal incontinence [1,2] are often chronic diseases that may require regular assistance over long time periods [3]. Along with the worldwide rise of the proportion of older people (aged 65 years and over), a rise of pelvic floor disorders is seen [3, 4]. PFDs considerably reduce the well-being and the quality of life by interfering with daily and social activities, which in the worst case leads to isolation [5, 6].

To overcome the healthcare needs of an aging population with a variety of chronic diseases, new treatment and management concepts like interprofessional collaborations (IPCs) are emerging and have already been implemented in some settings [7, 8, 9]. In 2010, the World Health Organization (WHO) [10] launched a call for collaboration concepts between different medical professional groups especially between doctors and nurses. Collaborations are seen as one of the key parameters for high quality clinical work and for improving care for patients with chronic diseases, and hopefully they contribute to stabilizing health care costs [10].

Compared to the acute medicine that dominated the last century, IPCs represent a new strategy that involves increasing patient demands with regard to time, psychological and social skills as well as compassion. Consequently, the curricula of doctors and even more so of nurses will change and the interactions between health care providers will increase [7]. The chronic conditions in particular require

the comprehensive involvement of medical, social and cultural aspects in an interprofessionally organized health-care system that so far remains insufficiently explored [7, 9, 11].

The interprofessional approach for the treatment of PFDs was primarily introduced by pediatricians [12], whose clinical activities were supported by urotherapists treating children with urinary and fecal incontinence [13, 14]. A review addressing urotherapy in children revealed that the urotherapist contributed to a reduced urinary and fecal incontinence [13]. However, information regarding the frequency, number, and time of urotherapeutic consultations was not provided. Furthermore, comprehensive data on the clinical activities of urotherapists in adult urogynecology and their impact on the patient's quality of life are entirely lacking. In other fields such as breast cancer, the activities of specialist nurses, i.e. breast care nurses, in care teams improved physical, psychological and social well-being [15]. Conceivably, experience with the role of a urotherapist in urogynecology would be highly valuable for the treatment of adult patients as they help to define resources for educative and caring counselling to patients and care-givers. In 2009, a nurse-led urogynecology triage clinic was established offering a service for women with long-term urinary incontinence [16]. At that time, the concept "interprofessional collaboration" was not yet an issue as such. A retrospective study examining the nurse-led triage clinic led to the conclusion that patients with urinary incontinence were adequately managed by specialist nurses [16].

In two recent reviews concerning IPCs [7, 17] and in a Cochrane Database review from 2017 [9], the authors discuss that it is still not clear how the IPC concept should be realized, that there is not sufficient evidence to draw conclusions on the effects of IPC interventions and whether or not it will have implications for a better and more economical health care system [7, 9,17].

The aim of our prospective observational study is to describe and evaluate a competent and individual management of patients with pelvic floor disorders by the urotherapist in a teaching hospital with a certified urogynecological unit.

2. Material And Methods

The study was approved by the local Ethic Committee (BASEC 2016-00211). It was performed from July 2016 to June 2018 in the outpatient clinic of the Department of Obstetrics and Gynecology at the Kantonsspital Winterthur/Switzerland. The activities of the urotherapist were documented using parameters such as the type of pelvic floor disorders, the type of counselling, the time frame of the treatments and patient satisfaction with the service.

Participants

Patients were included after a first consultation by a urogynecologist who decided that advanced care for PFDs was required due to a probable chronicity of the urogynecological disease. Patients were grouped according to the following types of PFDs: 1) overactive bladder with and without incontinence/recurrent urinary tract infections/chronic cystitis/pelvic pain syndrome (summarized as increased bladder

sensation group, IBS) [18], 2) pelvic organ prolapse (POP), 3) stress urinary incontinence (SUI), and 4) fecal incontinence (FI). The patients were ≥ 16 years old and signed an informed consent for pseudonymised use of their medical records. Patients with comprehension difficulties (language) were excluded.

There were no specifically predetermined consultations for the patients. Consultation schedules including duration of individual visits, interval and frequency, as well as the entire duration of PFDs management were organized according to individual patient needs. The number of consultations was not restricted. PFDs management ended when symptoms were resolved, when the patient was satisfied with the counselling or wished no further intervention. Usually, there was a final consultation with a urogynecologist. There were no group therapy classes and the consultation fees were covered by general, mandatory health insurances.

A subanalysis was performed in a subgroup of patients. Out of the 514, 38 patients were willing to participate in the prospective observational study and provided detailed information on the perception of their PFD symptoms before, and for patient satisfaction after the observation period as described below.

For the subgroup detailed information was captured regarding total consultation time, time in minutes per consultation, and mode of consultation.

Data collection

Demographic and clinical data were collected for all patients. The clinical data were documented and structured as history, findings, diagnosis and plan/therapy; using own words. All data were recorded in "Phoenix Prod": electronic medical records system and "Polypoint RAP-Dis": interprofessional planning and administration tool.

For the subgroup analysis, the German Pelvic Floor Questionnaire [19] was distributed by the urogynecologist or urotherapist at the first, and a short, customized questionnaire for patient satisfaction (Appendix) at the last patient visit. The German Pelvic Floor Questionnaire consists of 42 questions related to bladder function, bowel function, prolapse symptoms, and sexual function. The maximum total pelvic floor dysfunction score is 40. If a woman is not sexually active, the maximum score is 30 [19]. Questionnaires were returned in person or by posted mail (pre-paid envelope provided).

Training and activities of the urotherapist

The training as a general nurse is a prerequisite for the continuing education as a urotherapist. The urotherapist training lasted one and a half additional years and included 5 modules focusing on diagnosis, treatment and care of people with functional, organic and neurogenic bladder disorders and of those with fecal incontinence. The training ended with an oral exam and a written thesis.

The main activities of the urotherapist included instructions for lifestyle modifications like bladder training, bowel habit training, dietary changes, completion of drinking and micturition protocols, fitting of

pessaries, teaching intermittent self-catheterization, changing indwelling urinary catheters, performing percutaneous posterior tibial nerve stimulation (PTNS) and bladder instillations. The urotherapist performed patient and nurse counselling on the wards, communicated with nursing homes, or conducted phone or e-mail counselling. These activities were performed with the agreement of a urogynecologist under his/her responsibility. The latter also prescribes pelvic floor rehabilitation as an important part of a conservative treatment.

Statistics

Descriptive statistical values are expressed as means with standard deviation (SD) for parametric data or median with range (Minimum – Maximum) in the case of nonparametric data (e.g. age, consultation time). For nominal data, absolute frequencies and percentages were calculated (e.g. diagnosis of PFDs, activities of the urotherapist). P-value was calculated by t-Test for independent samples, a p-value < 0.05 is considered as significant. Data were captured and calculated using SPSS software (Version 22.0 for Windows; Chicago, Illinois / USA).

3. Results

From July 2016 to June 2018, 1709 patients were examined by urogynecologists. Of these patients 514 (30%) were subsequently referred to the urotherapist. The mean patient age (including standard deviation and range) was 69 years (17y, 20 to 92y) for the IBS group, 70 years (12y, 30 to 92y) for POP, 64 years (16y, 20 to 92y) for SUI, 63 years (18y, 20 to 84y) for FI, and 56 years (18y, 17 to 93y) for mixed disorders (MDs).

Number and type of urotherapist consultations related to patient characteristics

Out of the 514 patients referred to the urotherapist, 43% had IBS, 29% POP, 18% SUI and 4% FI. 19% of the women did not exclusively have urogynecological disorders but MDs like vaginal adhesions after radiotherapy, vulvar diseases, menopausal disorders with negative impact on the bladder function. Related to the 583 PFDs, patients had 1.10.4 PFDs on average.

Figure 1 shows the different activities of the urotherapist. The total number of urotherapeutic consultations of the 514 patients was 1555.

The relationship between the number of consultations and the underlying PFDs for the 514 patients is shown in Table 1.

The PFDs and number of consultations in relation to patient age are shown in Table 2. Patients 50 years and above have a mean of three consultations albeit with a wide range from one to 30, whereas patients under 50y had only 2 consultations on average with a range from one to 16. The older the patient, the more affected they are by an overactive bladder and pelvic organ prolapse. In patients under 50 years, urinary stress incontinence is the most frequent PFDs at 21%.

During the evaluation period, 132 (26%) out of the 514 patients underwent surgery: 60 incontinence surgery (tension free vaginal tapes (TVT), Botox and urethral bulking injections) and 72 POP surgery.

From the 1195 urogynecological patients who were not referred to the urotherapist, 280 (23%) directly underwent surgery, 140 incontinence and 140 POP surgery.

Number and type of urotherapist consultations related to patient characteristics in the study subgroup

The patient subgroup (n=38) had a mean age of 72years (15y, 23 to 92y) for IBS, 75 years (6y, 70 to 86y) for POP, 72 years (14y, 54 to 92y) for urinary stress incontinence, and 69 years (8y, 58 to 80y) for fecal incontinence. Patients of the subgroup presented with the following PFDs: 33 (57%) with IBS, 9 (16%) with POP, 10 (17%) with urinary stress incontinence and 6 (10%) with fecal incontinence. With a total number of 58 PFDs, each patient had 1.50.7 PFDs on average that is significantly higher than in the whole group collective (p=0.000).

Figure 2 shows the different activities of the urotherapist for the 38 patients of the study subgroup. The total number of urotherapeutic consultations was 330.

The number of consultations depending on the underlying PFDs for the study subjects are listed in Table 3. With 6 to 42 consultations, patients with more than five contacts had a highly variable range of consultations.

One patient from the total study group who had 30 consultations during the study period (July 2016 – June 2018) was 89 years old and had regular changes of her indwelling urinary catheter until she passed away in March 2019.

The patient of the study subgroup with the highest number of consultations (30) was 61 years old: she had 12 personal counsellings and 18 therapeutic contacts for PTNS. The urotherapist activities also included instructions for intermittent self-catheterization. She rated the success of her therapy as "good" and she is still a regular patient in our department.

28 (74%) patients of the study subgroup were older than 65 years. 19 of these women had a diagnosis of IBS, 7 of POP and 2 had both diagnoses.

On average, each subgroup study patient received 5.7 hours (0.5 to 35.8 hours) of urotherapist consultation, whereas the mean consultation time for each urogynecologist was 2.6 hours (0.5 to 10.8 hours). From a total of 215 hours of urotherapist consultation, 189 hours (88%) were personal contact with the patient and 27 hours (12%) were contacts by phone and occasionally by email. A personal consultation took 47 min on average, a consultation by phone 27 min on average.

During the evaluation period, four patients (10.5%) underwent prolapse surgery and three patients had incontinence surgery: 2 TVT and one Botox injection in the detrusor vesicae.

Patient perception of PFD symptoms and satisfaction with urotherapist care

The German Pelvic Floor Questionnaire, a self-administered questionnaire that integrates bladder, bowel and sexual function, pelvic organ prolapse, was used to record bothersomeness and condition-specific quality of life with the symptoms of PFDs [19]. The mean scores for the four domains bladder, bowel, prolapse, and sexual function were 3.89 (1.87) for the bladder domain, 2.66 (1.61) for the bowel domain, 1.01 (1.88) for the prolapse domain and 0.73 (1.61) for the sexual function domain. The overall pelvic floor dysfunction score was 8.4 (4.6).

Of the study subgroup, 33 patients (87%) returned the questionnaire on patient satisfaction. Twenty-seven patients (82%) rated their satisfaction with the therapy outcome as "good to very good". The same number of patients would recommend the service of a urotherapist. Six patients (18%) rated their therapy success "neither good nor bad", but their satisfaction with the service was still good to very good. Two patients (6%) rated the success of their therapy, PTNS and counselling as "bad". Nevertheless, they were satisfied with the service. One patient (3%) rated her therapy (PTNS) success as "very bad" but found the service very good and would recommend urotherapy to others.

4. Discussion

The study took place in a public, regional referral hospital that is also a teaching hospital for gynecologists, urogynecologists and nurse practitioners. One third of the patients with PFDs were co-managed by the urotherapist. Age >65 years, IBS and a combination of PFDs proved to be the parameters pointing to the highest need for urotherapists consultation. 58% of these patients were over 65 years old. Of the different lower urinary tract symptoms (LUTS), IBS symptoms led to the most consultations in all age groups which indicates that this is the most *care* time-consuming disorder overall [20, 21]. This kind of disorders was diagnosed in 43% of the over 65 years-old. The study subgroup had a higher proportion of >65y patients and thus, an even higher incidence of IBS symptoms (57%) was observed. The high bother by IBS symptoms is also reflected in the scores of the German Pelvic Floor Questionnaire which was found to be highest in the bladder domain. This finding corresponds to findings of a study by Agarwal et al, where urinary urgency was the most common troubling symptom in a large population-based study [20].

Moreover, study subgroup patients had 1.5 PFDs on average compared to 1.1 of the entire collective referred to the urotherapist. Consistent with the higher rate of PFDs, 47% of the patients had more than 5 urotherapist consultations vs 11% of the entire collective.

POP was the second most common PFD. Our study shows that the number of urotherapist consultations is lower for POP than for IBS. It has previously been reported that the counselling of patients with POP and the fitting of pessaries by a specialist nurse is a simple and effective conservative treatment [22, 23]. The pessary treatment as part of the urotherapist activity is gaining more importance, especially since POP-surgery is under debate due to recurrences and complication rates [24].

The study revealed that a majority of consultations took place by phone (59%), with a maximum of 2 consultations by the urotherapist for a majority of patients (62%). A small proportion of patients (11%)

needed more than 5 consultations, indicating that the comprehensive, competent management of some patients can be very time consuming. The mean consultation time of the urotherapist per study subgroup patient was 5.7 hours, which is more than twice the consultation time of the urogynecologist. The length of the counselling time reflects the patient's need for information and education. In addition, the time needed for the consultation considerably varies; in general, older patients need more time.

Consultations widely varied from counselling for continence products or clarifying pre- and postoperative administrative issues to intense, long-term therapies including PTNS or catheter management. Patients with PFDs have different levels of personal requirements that have to be evaluated individually by the urotherapist. Questionnaires showed that this effort is highly appreciated by the patients and thus, is likely to contribute to a high patient satisfaction.

The results of our study help planning the schedule of a urotherapist within the unit. As the urotherapist's salary does not depend on the number and duration of consultations she can take her time as needed especially for complex patients.

There are some limitations in this study. Specifically, because urotherapy was established as a new service, data are valued descriptively only. We didn't use a standardized written protocol for counselling. Furthermore, we could not recruit as many patients as planned, which is not uncommon for real-life, observational studies [25]. Many patients found reading the 10 pages of patient information and/or filling-in the questionnaires too bothersome and declined participation. Another reason might be found in the high percentage of women (62%) that were satisfied with one or two urotherapist consultations and subsequently were no longer interested in participating in a substudy. To report the outcome with the urotherapists service in a more quantitative way, a post-counselling distribution of the German Pelvic Floor Questionnaire would have been of value. When planning the study, we could not know how much time and effort by the urotherapist was needed to adequately care for the patients according to the different PFDs; surprisingly, most patients needed only a limited number of consultations with the highest consultation numbers for increased bladder sensation symptoms. Moreover, the information could often be transmitted by phone or e-mail.

Our study could not answer the question whether or not the concept of interprofessional approach has an impact on health costs. In the literature, greater efficiency and lower costs of an interprofessional approach are discussed controversially [26]. Up to now we did not have to hire additional nurses when we introduced the concept of a urotherapist in our urogynecology clinic.

Despite the limitations, the study enables us to improve the estimates of patient care delivery by the urotherapist for a growing population of patients with PFDs. The integration of communication tools such as structured protocols for counseling by the urotherapist, specific hotline, telemedicine (for frail patients) and e-mail contact should be evaluated while taking into account issues regarding data safety (e.g. access to medical records). In addition, the results are a good basis for negotiations with the health insurances on covering patient attributable costs. Nurse-led counselling covers a patient need in urogynecology. This service will be more cost effective than if it were provided by doctors.

Our study emphasizes the benefits of an interprofessional collaboration between the urogynecologist and the urotherapist. By carrying out specialized activities that are frequently related to the care of patients with chronic PFDs, urotherapists relieve the workload of urogynecologists, who will have more time to deal with complex cases, surgery and teaching.

For the certification as pelvic floor center, the integration of a urotherapist could become a prerequisite. Thus, the competencies and decision-making powers of the urotherapist in an interprofessional setting need to be precisely defined and further evaluated [27].

Conclusion

The management of chronic diseases such as many PFDs calls for different models of patient care and therapy compared to acute medicine where cure mostly occurs within a foreseeable time frame. We could demonstrate that the integration of a urotherapist in a urogynecological unit is a key component in the effective management of PFDs in adult patients. Furthermore, the activities of the urotherapist were highly appreciated by the majority of the study subgroup patients who would recommend seeing a urotherapist also to other women. The main outcome of this study is an overview of the activities of the urotherapist which will facilitate the further development of the interprofessional collaboration between specialized nurses and doctors

List Of Abbreviations

FI: Fecal incontinence, IBS: Increased bladder sensation, IPCs: Interprofessional collaborations, PFDs: Pelvic floor disorders, POP: Pelvic organ prolapse, PTNS: Percutaneous tibial nerve stimulation, SD: Standard deviation, SUI: Stress urinary incontinence, TVT: Tension free vaginal tape, WHO: World Health Organisation

Declarations

Ethics approval and consent to participate

The project was approved by the Local Ethic Committee (BASEC 2016-00211) and all participants provided written consent.

Consent for publication

Not applicable.

Availability of data and materials

The dataset used and analyzed for this submission is available from the corresponding author on reasonable request.

Competing interests

The authors declare no competing interests. There are no potential conflicts of interest in the submitted research.

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Authors' contribution

All authors read and approved the final manuscript. VG was involved in project conception and development, data collection and interpretation of data, manuscript writing and manuscript editing. SF was involved in data collection and interpretation of data and manuscript editing. MW was involved in collection and interpretation of data and manuscript editing. CAS was involved in data interpretation and manuscript editing. RB was involved in project conception and development, data collection and manuscript editing. CB was involved in project conception and development, interpretation of data, manuscript writing and manuscript editing,

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Authors' information

Verena Geissbuehler is an experienced urogynecologist and head of the certified urogynecology unit of the department of ObGyn. She introduced and supported the concept of a specialist nurse in urogynecology many years ago; as up to 2018 no training was possible in Switzerland our first specialist nurse was sent to Germany for an official and structured training. Specialist nurses are more and more introduced in different fields of medicine in Switzerland. Trainings are offered but clinical research about their work is lacking.

References

1. Nygaard I, Barber MD, Burgio KL, Kenton K, Meikle S, Schaffer J, Spino C, Whitehead WE, Wu J, Brody DJ (2008) Prevalence of symptomatic pelvic floor disorders in US women. *Jama* 300 (11):1311-1316. doi:10.1001/jama.300.11.1311
2. Bardsley A (2018) Assessment, prevention and treatment of faecal incontinence in older people. *Nurs Older People* 30 (6):39-47. doi:10.7748/nop.2018.e1050
3. Dieter AA, Wilkins MF, Wu JM (2015) Epidemiological trends and future care needs for pelvic floor disorders. *Curr Opin Obstet Gynecol* 27 (5):380-384. doi:10.1097/GCO.000000000000200
4. Wu JM, Vaughan CP, Goode PS, Redden DT, Burgio KL, Richter HE, Markland AD (2014) Prevalence and Trends of Symptomatic Pelvic Floor Disorders in U.S. Women. *Obstetrics & Gynecology* 123(1):141-8. doi 10.1097/aog.000000000000057
5. Krhut J, Gartner M, Mokris J, Horcicka L, Svabik K, Zachoval R,

Martan A, Zvara P (2018) Effect of severity of urinary incontinence on quality of life in women. *Neurourology and urodynamics* 37 (6):1925-1930. doi:10.1002/nau.23568

6. Sung VW, Star Hampton B (2009) Epidemiology of Pelvic Floor Dysfunction. *Obstet Gynecol Clin N Am* 36: 421-443. doi: 10.10/j.ogc.2009.08.002

7. Karam M, Brault I, Van Durme T, Macq J (2018) Comparing interprofessional and interorganizational collaboration in healthcare: A systematic review of the qualitative research. *Int J Nurs Stud* 79:70-83. doi:10.1016/j.ijnurstu.2017.11.002

8. Lancaster G, Kolakowsky-Hayner S, Kovacich J, Greer-Williams N (2015) Interdisciplinary Communication Among Physicians, Nurses, and Unlicensed Assistive Personnel. *Journal of Nursing Scholarship* 47:3, 275-284. doi:10.1111/jnu.12130

9. Reeves S, Pelone F, Harrison R, Goldman J, Zwarenstein M. Interprofessional collaboration to improve professional practice and healthcare outcomes. *Cochrane Database of Systematic Reviews* 2017, Issue 6. Art. No.: CD000072. DOI:10.1002/14651858.CD000072.pub3

10. Framework for Action on Interprofessional Education & Collaborative Practice (WHO/HRH/HPN/10.3), 2010. https://www.who.int/hrh/nursing_midwifery/en/

11. Davis KJ, Kumar D, Wake C (2010) Pelvic floor dysfunction: a scoping study exploring current service provision in the UK, interprofessional collaboration and future management priorities. *Int J Clin Pract* 64,12 1661-1670

12. Nijman R, Tekgul S et al. (2017) In: Abrams B, Cardozo L, Wagg A, Wein A (ed). *Incontinence*, 6th edn ICUD ICS, pp 999-1000

13. Assis GM, Silva C, Martins G (2019) Urotherapy in the treatment of children and adolescents with bladder and bowel dysfunction: a systematic review. *J Pediatr (Rio J)*. doi:10.1016/j.jped.2019.02.007

14. Noordhoff TC, t'Hoën LA, van den Hoek J, Verhallen-Dantuma J, van Ledden-Klok MJ, Blok BFM, Scheepe JR (2017) Urotherapy in children with dysfunctional voiding and the responsiveness of two condition-specific questionnaires. *Neurourology and Urodynamics* 37; 1494-1500

15. Arving C, Sjoden PO, Bergh J, Lindstrom AT, Wasteson E, Glimelius B, Brandberg Y (2006) Satisfaction, utilisation and perceived benefit of individual psychosocial support for breast cancer patients—a randomised study of nurse versus psychologist interventions. *Patient Educ Couns* 62 (2):235-243. doi:10.1016/j.pec.2005.07.008

16. Oliver R, Thakar R, Sultan AH, Phillimore A (2009) Urogynecology triage clinic: a model of healthcare delivery. *Int Urogynecol J* 20 (8):913-917. doi:10.1007/s00192-009-0878-x

17. Sangaletti C, Schweitzer MC, Peduzzi M, Zoboli E, Soares CB. Experiences and shared meaning of teamwork and interprofessional collaboration among health care professionals in primary health care settings: a systematic review. *JBI database of systematic reviews and implementation reports*. 2017;15(11):2723-88

18. Haylen BT, de Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *Int Urogynecol J*. 2010;21(1):5-26

19. Baessler K, O'Neill SM, Maher CF, Battistutta D (2010) A validated self-administered female pelvic floor questionnaire. *Int Urogynecol J* 21: 163-172. doi:10.1007/s00192-009-0997-4

20. White N, Iglesia CB. Overactive Bladder. *Obstet Gynecol Clin North Am*. 2016 Mar;43(1):59-68. doi: 10.1016/j.ogc.2015.10.002

21. Agarwal A, Eryuzlu LN, Cartwright R, Thorlund K, Tammela TL, Guyatt GH, et al. What is the most bothersome lower urinary tract symptom? Individual- and population-level perspectives for both men and women. *European urology*. 2014;65(6):1211-7

22. Brown LK, Fenner DE, DeLancey JO, Schimpf MO (2016) Defining Patient Knowledge and Perceptions of Vaginal Pessaries for Prolapse and Incontinence. *Female Pelvic Med Reconstr Surg* 22 (2):93-97. doi:10.1097/SPV.0000000000000252

23. Betschart C, Cervigni M, Contreras

Ortiz O, Doumouchtsis SK, Koyama M, Medina C, Haddad JM, la Torre F, Zanni G (2015) Management of apical compartment prolapse (uterine and vault prolapse): A FIGO Working Group report. *Neurourology and urodynamics*. doi:10.1002/nau.22916 24. de Mattos Lourenco TR, Pergialiotis V, Durnea C, Elfturi A, Haddad JM, Betschart C, Falconi G, Doumouchtsis SK, An International Collaboration for Harmonising Outcomes R, Standards in U, Women's H (2019) Systematic review of reported outcomes and outcome measures in randomized controlled trials on apical prolapse surgery. *Int J Gynaecol Obstet*. doi:10.1002/ijgo.12766 25. Lie MLS, Lecouturier J, Harding C (2019) Should I stay or should I go? A qualitative study exploring participation in a urology clinical trial. *International urogynecology journal* 30 (1):9-16. doi:10.1007/s00192-018-3784-2 26. Walkenhorst U, Mahler C, Aistleithner R, Hahn EG, Kaap-Frohlich S, Karstens S, Reiber K, Stock-Schroer B, Sottas B (2015) Position statement GMA Committee– "Interprofessional Education for the Health Care Professions". *GMS Z Med Ausbild* 32 (2):Doc22. doi:10.3205/zma000964 27. Bookey-Bassett S, Markle-Reid M, Mckey CA, Akhtar-Danesh N (2016) Understanding interprofessional collaboration in the context of chronic disease management for older adults living in communitiers: a concept analysis. *Journal of Advanced Nursing* 73(1), 71-84. doi: 10.1111/jan.13162

Tables

Table 1: Relation between number of consultations and PFDs (Combination of PFDs possible)

Number of consultations	Pelvic floor disorders N=583	Increased bladder sensation N=221	Pelvic organ prolapse N=151	Stress urinary incontinence N=93	Fecal incontinence N=18	Mixed disorders N=100
1 - 2	353 (60%)	111 (32%)	92 (26%)	56 (16%)	10 (3%)	84 (24%)
3 - 5	161 (28%)	69 (43%)	47 (29%)	29 (18%)	3 (2%)	13 (8%)
> 5	69 (12%)	41 (59%)	12 (17%)	8 (12%)	5 (7%)	3 (4%)

Table 2. Number of consultations and PFDs in relation to patient age

Age group	Patients	Number UT consultations mean (range)	Increased bladder sensation	Pelvic organ prolapse	Stress urinary incontinence	Fecal incontinence	Mixed disorders
< 50 years	88 (17%)	2 (1-16)	32 (32%)	10 (10%)	20 (21%)	5 (4%)	32 (32%)
50 - 65 years	126 (20%)	3 (1-30)	44 (30%)	35 (24%)	27 (18%)	5 (3%)	36 (24%)
> 65 years	300 (58%)	3 (1-29)	145 (43%)	106 (31%)	46 (14%)	8 (2%)	32 (10%)
	514 (100%)						

Table 3. Relation between number of consultations and PFDs for the study subgroup (Combination of PFDs possible)

Number of consultations Subgroup	Pelvic floor disorders N=58	Increased bladder sensation N=33	Pelvic organ prolapse N=9	Stress urinary incontinence N=10	Fecal Incontinence N=6
1 - 2	17 (29%)	7 (41%)	4 (24%)	4 (24%)	2 (12%)
3 - 5	13 (22%)	8 (62%)	1 (8%)	3 (23%)	1 (8%)
> 5	28 (48%)	18 (64%)	4 (14%)	3 (11%)	3 (11%)

Figures

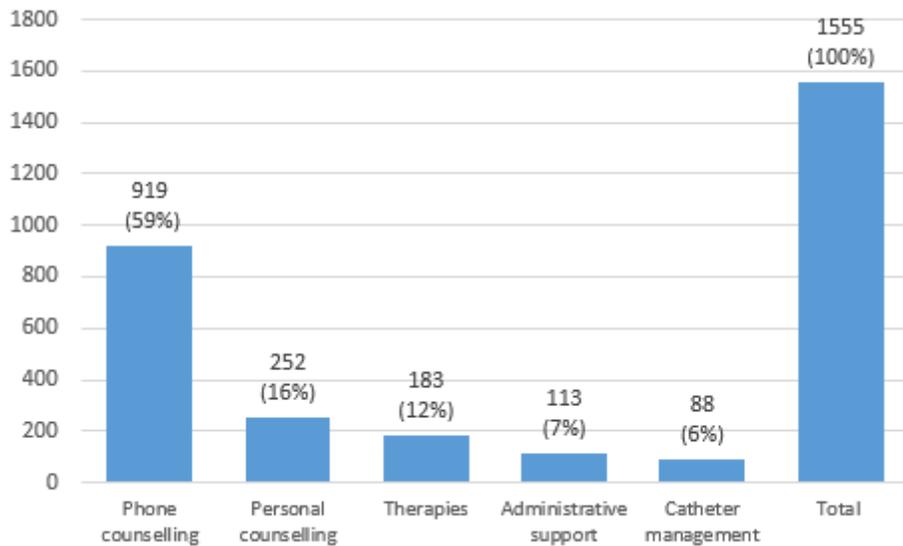


Figure 1

Activities of the urotherapist during the evaluation period

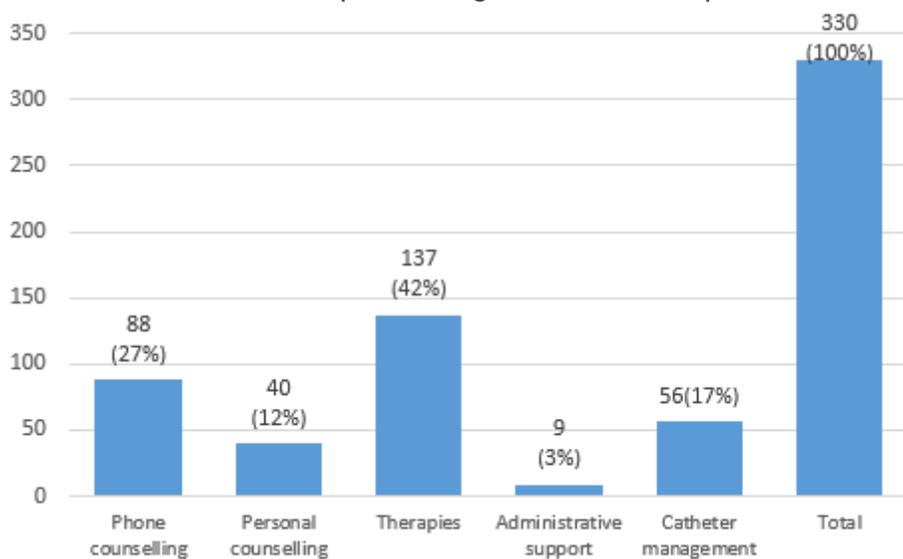


Figure 2

Urotherapist activities for the study subgroup

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Appendix.pdf](#)