Influence of Pre-Examination Counseling in Women with Incontinence Undergoing Urodynamic Assessments: A Retrospective Study

Mário Maciel de Lima Junior[1], Yasmin Picanço Grangeiro Pereira[2], Jéssica de Souza Silva[2], Fabiana Granja[2]

[1]*Department of Urology, Coronel Mota Hospital, Roraima, Brazil*
[2]*Biodiversity Research Center, Federal University, Roraima (CBio/UFRR), Brazil*

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Correspondence to: Mario M. de Lima Junior

Address: Department of Urology, Coronel Mota Hospital, Roraima, Brazil

Email: mmljr@uol.com.br

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ABSTRACT

BACKGROUND: The aim of this study was to examine the influence of pre-examination intimation and counseling of women with urinary incontinence on physical and psychological discomforts during urodynamic assessment.

METHODS: One hundred and fifty-two women with urinary incontinence, who underwent urodynamic assessment, were studied prospectively. A questionnaire survey was used to study their awareness about the nature of the assessment, extent of physical discomfort, mental stress, and the pain level during the assessment and to determine if pre-examination counseling had any effect on the level of pain or distress.

RESULTS: Most patients felt that the urodynamic examination was important, but noted lack of detailed information. Although the patients were anxious, most were not in distress. There was no correlation between prior information and the extent of pain or distress. However, older women reported less pain during the procedure compared to the younger women. The results also indicated that the patients were comfortable with familiar doctors, and that most preferred a female doctor.

CONCLUSION: Our findings confirm the importance of pre-examination counseling in women before undergoing urodynamic examination to minimize the symptoms of anxiety and shame, which may indirectly result in fewer artefacts and better interpretation of the results.

Keywords: Urodynamic; Incontinence; Voiding Dysfunction; Obstruction; Physical Discomfort; Psychological Discomfort

INTRODUCTION

Urinary incontinence (UI) – an involuntary urination or the loss of bladder control involving leakage of urine is a common and an often embarrassing problem. Most bladder control problems occur when muscles are either too weak or too active. Urinary incontinence can impact the physical, psychological and social well-being of sufferers, as well as their families and careers [1]. Women with any type of urinary incontinence show a significant lower degree of mental health [2] and a significantly poorer quality of life than their continent counterparts. A review by Sinclair and Ramsay [3] found that between 25–50% of incontinent women also experience sexual dysfunction. Urinary incontinence commonly leaves the sufferer with psychological morbidity, particularly depression.

Urodynamic studies are bladder function tests that aid in the diagnosis of incontinence, voiding dysfunction, and obstruction in order to make a definitive, objective diagnosis [4]. Such tests are recommended when patients report lower urinary tract symptoms such as urine leakage, frequent urination, painful irritation, sudden strong urges to urinate, problems in starting a urine stream, problems in voiding, and recurrent urinary tract infections. Data obtained through urodynamic studies not only confirm the cause of the problem, but also serve as a guide for treatment approach [5].

Although urodynamic tests are widely used, their role in the investigation and management of incontinence is controversial, as there have been questions regarding their reproducibility [6, 7] and sensitivity reliably [8].

Presently, there is no consensus on the need for urodynamic investigations to guide management of incontinence. Moreover, there is no study in

patient population in Boa Vista, Brazil. Therefore, we conducted this survey with the aim of understanding the physical and psychological discomforts of the patients undergoing urodynamic studies and the importance of prior intimation and counseling.

METHODS

This study was conducted at Hospital Materno-Infantil Nossa Senhora de Nazaré (HMINSN), a teaching hospital center for women's health in the city of Boa Vista-RR, Brazil. Patients who were to undergo for urodynamic studies were asked 11 questions before the urodynamic studies and 5 questions afterwards (Appendix A). After the studies, the women were also asked to rate their discomfort on a visual analog scale (VAS). The questions aimed at understanding the patients' level of awareness regarding the nature of the assessment, the extent of physical discomfort and mental stress, and the pain level of the patient during the urodynamic assessments. This project was approved by the Committee on Ethics in Research [485.195 (12/09/2013)].

This survey was an exploratory study; hence, no formal sample size calculations were performed. Patients were categorized into three age groups for analysis: (i) up to 40 years, (ii) 40–50 years, and (iii) above 50 years. Chi-square test and Fisher's exact test were performed for determining the correlations between prior and post-examination responses and pain. Statistical analyses were performed using SPSS, version 21.

RESULTS

One hundred and fifty-two patients who attended the clinic of urogynecology at the Reference Center for Women's Health - Hospital Materno Infantil Nossa Senhora de Nazaré (HMINSN) in Boa Vista (RR), Brazil, participated in this survey. Their age ranged from 28 to 81 years, mean age was 49.81 years, median age was 49 years, 37 (24.3%) were below 40 years, 52 (34.2%) were between 40-50 years, 63 (41.5%) were above 50 years, 42% were black, 53% white, and 5% were Indian. Fifty six percent were in a stable relationship, 39% were married, 2% divorced, and 3% were widowed.

The participants were prospectively studied using questionnaire survey. We divided the responses of survey questionnaire into two categories as pre-examination responses and post-examination responses. A summary of the patient response is presented in Table 1. Statistical analysis of the responses (Table 1) indicated that older women (above 40 years) were more aware of the name of the assessment compared to the younger women (below 40 years). About 44.8% of the patients younger than 50 years knew the name of the doctor performing the assessment. The proportion of patients with an understanding of the risks and benefits of the examination was marginally higher in women below 40 years than the other two groups. Most patients (17.1% below 40 years, 28.3% for 40-50 years and 30.9% above 50 years) felt that they were not informed in detail. Most patients (97.4%) agreed that this was an important examination. Nevertheless, most (76.3%) did not harbor any adverse thoughts of apprehension or distress at having to undergo this examination (Table 1). However, answers were not precise.

Analyzing the post-exam responses, we found that tension of the pelvic floor muscle during the examination could contract the perineal muscles, in particular, those involved in urination. Most patients (53.3%) felt that the discomfort caused by the urinary catheter was higher than that caused by rectal probe (42.8%). Women above 50 years felt that the rectal probe was not a cause of discomfort ($p = 0.069$) (Table 1).

We analyzed the individual items in the questionnaire to examine correlation with pain. We found positive correlations between familiarity with the doctor (name of the doctor) and reduction in the level of anxiety ($p < 0.05$). Statistically significant number of the patients (143 patients; 94.1%) preferred examination by female health professional than male health professional (99 patients; 65.1%) ($p = 0.01$) (Table 1).

DISCUSSION

In the current study, we did not find any correlations between prior information and the extent of pain or distress. However, familiarity of the doctor performing the procedure and preference for female doctor appeared to be significant factors. Pain experienced during the procedure was lower in older women than that in younger women. This may be due to a higher level of anxiety among younger patients compared to the older ones because the older patients are more familiar and experienced in terms of medical tests.

Women with pelvic floor disorders present with a variety of symptoms, including urinary incontinence, pelvic organ prolapse, and urgency

Table 1: Patient Responses

	Characteristic	≤ 40 years n (%)		41–50 years n (%)		≥ 50 years n (%)		TOTAL	
		Yes	No	Yes	No	Yes	No	Yes	No
1	Name of the Exam	20 (13.2%)	17 (11.2%)	7 (4.6%)	45 (29.6%)	18 (11.8%)	45 (29.6%)	45 (29.6%)	107 (70.4%)
2	Name of the Doctor	27 (17.8%)	10 (6.6%)	41 (27%)	11 (7.2%)	39 (25.7%)	24 (15.8%)	107 (70.4%)	45 (29.6%)
3	Benefit of the Exam	19 (12.5%)	18 (11.8%)	25 (16.4%)	27 (17.8%)	23 (15.1%)	40 (26.3%)	67 (44.1%)	85 (55.9%)
4	Prior Information	11 (7.2%)	26 (17.1%)	9 (5.9%)	43 (28.3%)	16 (10.5%)	47 (30.9%)	36 (23.7%)	116 (76.3%)
5	Importance of the Examination	35 (23.0%)	2 (1.3%)	51 (33.6%)	1 (0.7%)	62 (40.8%)	1 (0.7%)	148 (97.4%)	4 (2.6%)
6	Anxiousness	28 (18.4%)	9 (5.9%)	34 (22.4%)	18 (11.8%)	42 (27.6%)	21 (13.8%)	104 (68.4%)	48 (31.6%)
7	Dread the Thought of Exam	16 (10.5%)	21 (13.8%)	16 (10.5%)	36 (23.7%)	19 (12.5%)	44 (28.9%)	51 (33.6%)	101 (66.4%)
8	Ashamed of Undergoing the Exam	16 (10.5%)	21 (13.8%)	27 (17.8%)	25 (16.4%)	31 (20.4%)	32 (21.1%)	74 (48.7%)	78 (51.3%)
9	Distressed at having to Undergo the Exam	8(5.3%)	29 (19.1%)	9 (5.9%)	43 (28.3%)	19 (12.5%)	44 (28.9%)	36 (23.7%)	116 (76.3%)
10	Test by Male Health Professional	27 (17.8%)	10 (6.6%)	35 (23.0%)	17 (11.2%)	37 (24.3%)	26 (17.1%)	99 (65.1%)	53 (34.9%)
11	Test by Female Health Professional	34 (22.4%)	3 (2.0%)	50 (32.9%)	2 (1.3%)	59 (38.8%)	4 (2.6%)	143 (94.1%)	9 (5.9%)
12	Test took too long	2 (1.3%)	35 (23.0%)	3 (2.0%)	49 (32.2%)	4 (2.6%)	59 (38.8%)	9 (5.9%)	143 (94.1%)
13	Willingness to Undergo Repeat Examination	36 (23.7%)	1 (0.7%)	49 (32.2%)	3 (2.0%)	63 (41.1%)	0 (0%)	148 (97.4%)	4 (2.6%)
14	Uncomfortable Position	7 (4.6%)	30 (19.7%)	18 (11.8%)	34 (22.4%)	10 (6.6%)	53 (34.9%)	35 (23.0%)	117 (77.0%)
15	Urinary Catheter	22 (14.5%)	15 (9.9%)	25 (16.4%)	27 (17.9%)	34 (22.4%)	29 (19.1%)	81 (53.3%)	71 (46.7%)
16	Rectal Probe	17 (11.2%)	20 (13.2%)	26 (17.1%)	26 (17.1%)	22 (14.5%)	41 (27%)	65 (42.8%)	87 (57.2%)
17	Visual analog scale (Mean ± SD)	2.19 ± 1.91		2.44 ± 2.30		2.0 ± 2.11		2.19 ± 2.13	

with or without incontinence, voiding or defecatory dysfunction. Urodynamic assessments are considered after detailed examination of the medical history, clinical examination and an ultrasonography of the kidney-ureter-bladder. Urodynamic assessments begin with a daily diary recording of the patient's fluid intake and voiding times. Urodynamic studies are beneficial for assessing the pathophysiology of the lower urinary tract symptoms. There are innumerable sources of errors that might interfere in data interpretation. Patient's anxiety might also affect voiding and the filling-storage phase. Effective counseling and constant communication with the patient during the test procedure may help allay the sense of anxiety and shame in female patients undergoing such tests.

Anxiety and discomfort can influence the outcome of urodynamic study; therefore, it could be an interesting topic to investigate. In a study assessing the symptoms and satisfaction of women undergoing urodynamic studies, anxiety was associated with embarrassment, and younger age correlated with higher pain [9]. In another prospective questionnaire survey involving 297 women, although the urodynamic tests were well-tolerated by most women, the overall distress was less in older women than in younger women. Women found the tests less distressing, when they were adequately informed about the test [10]. Guidelines on the method and demystification of the urodynamic studies may minimize the anxiety level of patients undergoing the exam.

However, a major limitation of our study was that the analysis was performed as a single center

study. A meta-analysis, i.e., a comparison of results from different centers, may provide a more meaningful conclusion about the correlation between pre-examination counseling and urodynamic assessment.

CONCULSION

Our results suggest that most women thought that pre-examination counseling before urodynamic assessment is important. This may minimize the symptoms of anxiety and shame, which in turn might result in fewer artefacts and better interpretation of the results. However, our results suggested that there is no correlation between pre-examination counseling and the extent of pain or distress in women with incontinence.

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