

## HOW TO EXPLAIN PATIENT'S ADHERENCE TO A CLEAN INTERMITTENT SELF-CATHETERIZATION PROGRAM?

### Hypothesis/ Aims of Study:

There some attempts to determine variables that could be related to the patient's adherence to a CISC. Age, gender, health status and mobility seem to be involved with the adherence rate. However, there are few studies that clearly demonstrate which are the important variables to be evaluated by a physician before referee a patient to a CISC program. The aim of this study is to evaluate the influential factors that may explain patient adherence to intermittent clean self-catheterization (CISC) program.

### Study Design:

We designed a prospective studied to evaluate patients refereed to our CISC program. Patients with psychiatric or cognitive problems, with difficult to understand the procedure and those patients with difficult to self-handle the catheter did not have a homecare person to help them with the catheterization or those who refused to participate were excluded. All patients filled a WHO-QoL brief questionnaire before receive the CISC training and 4 weeks after being considered able to perform the catheterization. Patients were asked to answer a pain visual analogical scale (VAS), just before and after being trained. Data related to gender, age, scholar degree and marital status where taken from patients on arrival. Clinical data were gathered from: symptoms, urodynamic (UDS) and a 3 days bladder diary (intake liquid volume, urinary frequency, miccional and catheterization volume). Patients were followed after two weeks, then monthly with urinary diary to determine the adherence to the program and the ability to self catheterization.

### Results:

Forty four patients (14 female and 30 male) with mean age of 51.15 years old (range: 14 to 88 years old) completed the CISC training program. The initial diagnosis were vesico-sphincteric dyssinergia, detrusor hipocontractility or acontractility and bladder outlet bladder obstruction due to BPH with poor clinical conditions to surgery. On the follow up, 29 patients (66%) adhered to the program. Table 1 correlates the age and gender distribution with the adherence. The adherent male and female patient's average age were  $48.7 \pm 19.5$  and  $38.4 \pm 14.8$ , respectively. Patients over 60 years old had an adherence rate of 31%, while patients under 40 years old had a 94% adherence rate. Age range explains 32% of the adherence (ANOVA,  $R^2 = 0.316$  and  $p = 0.000$ ). The majority of non-adherent patients were men (93%). There is a significant difference in the gender distribution ( $p = 0.009$ ). On demographics, we found that gender and age are determinant factors to adherence in CISC program. Scholarship degree ( $p = 0,594$ ) and marital status ( $p = 0,177$ ) did not interfere on the adherence to CISC.

Table 1: Distribution of patients by age, gender and CISC adherence.

Patients	44	Non adherent			Adherent		
		Total	Female	Male	Total	Female	Male
		15	1	14	29	13	16
< 40 y.o.	16	1	0	1	15	7	8
40 to 60 y.o.	12	3	0	3	9	6	3
> 60 y.o.	16	11	1	10	5	0	5

In the same way, the initial clinical and urodynamic diagnosis did not interfere on adherence and did not have predictability for adherence (ANOVA,  $R^2 = 0.051$ ,  $p = 0.088$ ). Presence of overactive bladder ( $p = 0.208$ ), leakage ( $p = 0.830$ ), bladder outlet obstruction ( $p = 0.710$ ), and paraplegia ( $p = 0.972$ ) at the initial presentation were evaluated and have not shown significance to explain adherence to CISC program. The adherence rate for neurogenic and non-neurogenic voiding dysfunction was 88% and 75%, respectively ( $p = 0.471$ ).

By determining the VAS before patient's training we could evaluate the pain expectation. There was a significant decrease on the VAS score (0 - 10) from before to after CISC. Female had a greater pain expectation, but after performing the catheterization, both men and women had similar scores (Table 2).

Table 2 – Difference between male and female pain VAS before and after CISC training.

	Female patients (n = 15)	Male (n= 29)	Patients	p value
VAS pre training (pain expectation)	6.77 ± 1.92	4.80 ± 3.00		$p = 0.003$
VAS post training	2.00 ± 1.83	2.36 ± 1.73		$p = 0.491$
p value	$p < 0.001$	$p < 0.001$		

Regarding QoL, patients that adhere to CISC had a higher score on social relationship domain of the WHOQoL questionnaire than those who did not adhere to the program (Table 3).

Table 3: QoL evaluation before treatment for adherent and non-adherent CISC patients

WHOQoL Domain	Before treatment (CISC)			p value
	Adherent (n=25)	Non adherent (n=10)		
Physical	51.86	48.57		0.339
Psychological	65.33	64.17		0.702
Social relationships	65.67	59.17		0.011*
Environment	52.75	56.25		0.167

### Interpretation of Results:

We determined that women under 60 years old are the best candidates to CISC with an adherence rate of 93%. While, men under 60 years old have a 36.6% adherence rate. One reasonable explanation for these findings would be that men had greater pain during self cath. However, after performing the catheterization, both men and women had similar pain scores. Demographics, clinical data and urodynamic findings could not be correlated to patient adherence to a CISC program. Patients that adhered to the program have a higher score on the social relationship domain, which could mean that these patients may be more encouraged for their relatives and friends.

Concluding Message:

The main variables to explain patient's adherence to CISC is the gender and age. Women under 60 years old are the best candidates to CISC. Men and women have the same pain sensation during the catheterization.

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<b><i>What were the subjects in the study?</i></b>	<b>HUMAN</b>
<b><i>Was this study approved by an ethics committee?</i></b>	<b>Yes</b>
<b><i>Specify Name of Ethics Committee</i></b>	<b>Comite de Ética e Pesquisa - UNIFESP</b>
<b><i>Was the Declaration of Helsinki followed?</i></b>	<b>Yes</b>
<b><i>Was informed consent obtained from the patients?</i></b>	<b>Yes</b>