



QUALITY OF LIFE OF ADULT PATIENTS WITH DETRUSOR SPHINCTER DYSSYNERGIA AND HYPOCONTRACTILE BLADDER USING SELF INTERMITTENT CATHETERIZATION: 14 FRENCH VERSUS 12 FRENCH CATHETER

Urology

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ABSTRACT

OBJECTIVE: To compare the impact of catheter size 14 French vs 12 French on quality of life of patients using Clean intermittent self-catheterization.

SUBJECT: Inclusion criteria patients using CISC for neurogenic (DSD) bladder, hypo contractile bladder.

Exclusion criteria patient with urethral stricture, history of urethral, bladder, or prostate surgery, pediatric patients.

METHODS: It was a comparative, observational, study which comprised of total 40 patients diagnosed with neurogenic bladder (detrusor sphincter dyssynergia), hypo contractile bladder, out of which 20 patients were given 12 French catheter and 20 patients were given 14 French catheters as per coin randomization method. The patients were assessed for quality of life by using WHO QoL-BREF. T- test was utilised to compare the mean. $p < 0.05$ was taken to be statistically significant.

RESULTS: In physical domain the mean score was higher in patients using 12 French catheter (56.01) compared with patients using 14 French catheter (55.1) but difference was statistically insignificant with p -value (0.688). In Psychological domain the mean score was higher in patients using 12 French catheters (63.90) compared with patients using 14 French catheters (63.30) with p -value (0.793). In Social relationships domain the mean score was higher in patients using 14 French catheters (62.20) compared with patients using 12 French catheters (61.55) but difference was statistically insignificant with p -value (0.855). similarly in the social relationships domain the mean score was higher in patients using 14 French catheter (58.65) compared with patients using 12 French catheter (58.53) with p -value 0.935.

CONCLUSION: Higher score in physical and psychological domain implies less pain, greater treatment compliance and improving the patient's QoL, but higher score observed in physical and psychological domain was statistically insignificant. Based on above study we concluded that there was no significant difference in quality of life of patients using 12 French or 14 French for CISC.

KEYWORDS

Quality Of Life, Neurogenic Bladder , Hypo Contractile Bladder, cisc

INTRODUCTION

Clean intermittent self-catheterization (CISC) is periodically insertion of a catheter through urethra to evacuate the urinary bladder [1]. Clean intermittent self-catheterization (CISC) was first reported by Jack Lapides in 1972, as a safe strategy to empty urinary bladder [2]. It is now the gold standard of care for patients who are suffering from voiding problems leading to urinary retention such as neurogenic bladder.

Detrusor sphincter dyssynergia (DSD) is defined by the ICS as 'the impaired coordination between detrusor and sphincter during voiding due to a neurologic abnormality' [3]. Common neurological conditions leading to DSD comprise: Spinal cord injury, spinal dysraphism, Multiple sclerosis, and transverse myelitis [4,5,6].

Underactive bladder is a frequent urological issue in the elderly leading to incomplete bladder evacuation or chronic urinary retention. Incomplete bladder emptying aggravate storage symptoms such as frequency, nocturia, urgency. Patients with incomplete bladder emptying are susceptible to complications, including recurrent urinary tract infections, urinary bladder stones, upper urinary tract changes, and even renal impairment. Conventionally, suprapubic and indwelling transurethral catheters have been utilized. The use of CISC has considerably decreased the incidence of complications associated with indwelling catheters, such as urinary tract infection, bladder stones, urethral erosion and cancer [7]. CISC causes physical discomfort as well as psychological issues relating to awkwardness and low self-esteem. To be effective CISC should be executed at regular interval depending upon severity of voiding dysfunction-which causes costs and significant changes in quality of life style [8]. The volume obtained on catheterisation gives an estimate of bladder capacity and give a rough estimate for fluid intake to remain dry, to improve his quality of life. This volume ought to preferably be kept around 300 ml. [9] Patients usually learn to balance fluid intake with frequency of catheterisation in order to remain dry. No bedtime drink should be taken. Daily liquid intake of 2 litre is adequate. Traditionally (14-16) fr catheter has been used for CISC. it has been noticed that,

bigger the catheter size, more will be physical discomfort. Catheter size below 12 French such as 10 French is difficult to negotiate. In this observational study we want differentiate the quality of life in adult patient using 14 French catheters versus 12 French catheters. To our knowledge this is first study which evaluated impact of catheter size (14 fr vs 12 fr) on quality of life patients using CISC.

METHODOLOGY

The study was conducted at the Department of Urology in a tertiary care centre of eastern India. Prior acceptance was taken from the Ethical Committee.

It was a comparative, observational, study which comprised of total 40 patients diagnosed with neurogenic bladder (detrusor sphincter dyssynergia), hypo contractile bladder, out of which 20 patients were given 12 French catheter and 20 patients were given 14 French catheters as per coin randomization method. Every adult patient attending UROLOGY OPD in IPGME&R & SSKM HOSPITAL during study period of one year, with detrusor sphincter dyssynergia and hypo contractile bladder using CISC, who has given consent for the study has been included in the study.

Inclusion criteria patients using CISC for neurogenic (DSD) bladder, hypo contractile bladder.

Exclusion criteria patient with urethral stricture, history of urethral, bladder, or prostate surgery, pediatric patients.

The patients were assessed for quality of life by using WHO QoL-BREF. WHO QOL BREF is an questionnaire formulated by World Health Organization to evaluate the quality of life in human subjects. This is about how the person feels about satisfaction, wellbeing, or different aspects of his life. He needs to respond to all the questions. In the event that he is uncertain about which reply to give to a question, he is instructed to pick the one which seems most appropriate. There are 26 questions and four domains named • Domain 1: Physical health, Domain 2: Psychological, Domain 3: Social relationships, Domain 4:

Environment. Raw score obtained in each domain was converted to transformed scores(0 to 100). Scores was estimated according to domain and analysed.

Statistical analysis :

Statistical analysis was performed to estimate the means and its corresponding standard deviations (S.D.). T-test was utilized to compare the means.

RESULT

In this study total 40 patients diagnosed with neurogenic bladder (detrusor sphincter dyssynergia) and hypo contractile bladder were interviewed. In the 14 French group patients age ranged from 21 to 58 years with a mean age $\pm$ standard deviation (mean $\pm$ S.D), 40.6 ± 12.12 years. In the 12 French group age ranged from 23 to 62 years with mean age $\pm$ standard deviation (mean $\pm$ S.D), 38.05 ± 12.79 years. In the 14 French group, out of 20 patients 14(70%) were males and 6(30%) females. In the 12 French group, among 20 patient 13(65%) were males and 7(35%) females.

Table:(1) Physical Domain

		Num ber	Mean	SD	Minim um	Maxi mum	Medi an	t- test	p- value
physic al domai n	14 frenc h	20	55.10 00	6.11 21	44.000 0	63.000 0	56.00 00	-0.4 04	0.688
	12 frenc h	20	56.05 00	8.54 38	44.000 0	69.000 0	56.00 00		

In physical domain mean score was higher in patients using 12 French catheter but difference was statistically insignificant with p-value (0.688).

Table:(2) Psychological Domain

		Num ber	Mea n	SD	Mini mum	Maxi mum	Media n	t-test	p- value
psycholo gical domain	14 french	20	63.30 00	7.63 72	50.00 00	75.0 000	63.000 0	-0.26 4	0.793
	12 french	20	63.90 00	6.70 35	56.00 00	75.0 000	63.000 0		

In psychological domain mean score was higher in patients using 12 French catheter but difference was statistically insignificant (p-value 0.793).

Table:(3) Social Relationships Domain

		Num ber	Mea n	SD	Mini mum	Maxi mum	Media n	t-test	p- value
Social relation ships	14 french	20	62.2 000	11.6 781	31.00 00	75.00 00	69.000 0	0.184	0.855
	12 french	20	61.5 500	10.6 449	50.00 00	81.00 00	56.000 0		

In social domain mean score was higher in patients using 14 French catheter but difference was statistically insignificant (p-value 0.855).

Table:(4) Environment Domain

		Num ber	Mea n	SD	Mini mum	Maxi mum	Medi an	t-test	p-value
enviro nment domai n	14 french	20	58.6 500	9.74 56	31.00 00	69.00 00	63.00 00	0.081	0.9355
	12 french	20	58.5 300	13.2 755	25.00 00	69.00 00	63.00 00		

In environment domain mean score was higher in patients using 14 French catheter but difference was statistically insignificant (p-value 0.935).

DISCUSSION

According to WHO, QoL is "individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" [10]. Fumicelli L et al, following their study evaluating the QoL of patient on CISC concluded that improving urinary symptoms, access to job, confidence, independence as well as social cohesion can modify the QoL of patients suffering from neurogenic bladder using intermittent urinary catheterization [11].

Present study evaluated effect of catheter size (14 fr vs 12fr) on quality of life patients using CISC for Detrusor sphincter dyssynergia (DSD) or Underactive bladder (UAB). To our knowledge this is first study which evaluated impact of catheter size (14 fr vs 12 fr) on quality of life patients using CISC.

Concerning the QoL of the patients in this study, higher QoL scores were observed in the psychological domain and lower scores in the physical domain in both group of patients. Concerning the study of urinary catheterization users' QoL, other researchers have found data similar to this study in the lower scores measured in physical domain by the WHOQOL-bref , as well as the higher scores measured in the psychological domain [12,13].

In this study, in physical domain and Psychological domain higher score were observed in patients using 12 French catheters but difference in score is statistically not significant. In Social relationships and Environmental domain higher scores were observed in patients using 14 French catheters, difference in score is statically insignificant. According to the WHO QOL Group, the psychological domain involves the aspects of satisfaction, wellbeing, self-esteem and negative feelings. The physical domain includes aspects associated to pain, inconvenience, ability to work and dependence. Higher score observed in physical and psychological domain implies less physical and psychological trauma to patients, leading to less pain and greater treatment compliance and improving the patient's QoL.

CONCLUSION

In certain circumstances the treatment itself may prove troublesome and significantly affect quality of life. Clean intermittent self-catheterization is one such therapy that has the potential to have important physical and psychosocial effects. In this study higher scores were observed in physical and psychological domain in patients using 12 French catheters. Higher score in physical and psychological domain implies less pain, greater treatment compliance and improving the patient's QoL, but higher score observed in physical and psychological domain was statistically insignificant. Based on above study we concluded that there was no significant difference in quality of life of patients using 12 French or 14 French for CISC.

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