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Self Esteem and Quality of Life in Children and Adolescents with Clean Intermittent Self Catheterization

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Abstract: ***This study aims to assess the self esteem and quality of life in children and adolescents with clean intermittent self catheterization, the prevalence of psychological symptoms in children and adolescents, Correlation of self esteem, quality of life, psychological symptoms if any in children with clean intermittent catheterization.A total of 30 patients using self intermittent catheterization were assessed in the study with WHO quality of life scale, Self esteem Rosenberg scale, DASS scale. Quality of life of patients using clean intermittent self catheterization improved the independence, self-confidence and social relationships.A devoted team of professionals is required who could provide exceptional teaching, deals with internal and external barriers of CISC, gives continual advice, reassurance, and support to improve the compliance to CISC.***

Keywords: quality of life, clean intermittent self catheterization, self confidence, barriers, compliance

1. Introduction

Patients with urological disorders, either bladder outlet obstruction or underactive bladder muscles present with partial bladder emptying. Incomplete bladder emptying leads to symptoms such as increased frequency, incontinence and urgency and it may lead to complications such as stones in bladder, urinary tract infections, upper urinary tract alterations, and renal impairment.[1]

Clean intermittent self-catheterization is defined as the repetitive temporary placement of a catheter to void the bladder. [1] CISC has revolutionized the management of voiding dysfunction in several areas where intrinsic transurethral and suprapubic catheters were used earlier. The introduction of CISC in regular practice has extensively reduced the frequency of urological complications of intrinsic catheters, such as inflammation of kidney, bladder stones, pyelonephritis, erosion of urethra and bladder, and urosepsis. [2]

The Quality of life outcomes reflect the patients' ability to deal effectively with and adapt to their new and actual living condition. In neurogenic bladder patients – urinary bladder dysfunction alters the functioning of the bladder [3], the main objectives of the management are the preservation of the kidney function and the person's adaptability to the new living condition.[4] The effects and implications of the management, such as medication use, urinary incontinence management, micturition diaries and, the use of clean intermittent self catheterization, results in significant improvement in the activities of daily living. [5]

2. Literature Review

Guttman and Frankel [6] (1967) pioneered the use of intermittent catheterization in spinal units. They advocated the use of sterile catheters and strict asepsis and stressed that the procedure should be performed by medical personnel, in order to prevent infection. A different view of the origin of urinary infection in intermittently catheterised patients was expressed by Lapides (1972). [7] He proposed that a decreased blood flow to the renal tissue, ureter, bladder, and urethra due to over distension of the bladder and high intravesical pressure was the most frequent mechanism of the genesis of infection.Any bacteria introduced into the bladder by the catheter would be neutralised by the resistance of the host, provided that an adequate blood supply was maintained to the tissues. On the basis of this hypothesis, Lapides devised a nonsterile "Clean" intermittent-self-catheterization technique and proved it to be safe and effective. Intermittent catheterisation was thus be made simple and could be incorporated into a daily routine. [7]

CISC is a method to evacuate the bladder with ensuing removal of the catheter, performed by patient himself or their relatives after being taught by the concerned authority in the hospital.[8,9] It indicates that the technique performed is clean and it consists of washing practices, and usage of disposable or recyclable catheters. Patients with lower urinary tract dysfunction have symptoms like incomplete bladder voiding and urinary retention due to any neurological disorder. Pharmacological managements are not much effective and hence CISC plays a crucial role in the treatment.[10,11]

Clean Intermittent self catheterization improves quality of life by providing symptom relief such as reduction in the frequency of micturition, so that patient's sleep will be improved and hence morning fatigue will be reduced. [2,12] Voiding the bladder decreases the incidence of leakage of urine and results in less incidence of UTIs and incidence of embarrassments. Improved bladder symptoms provides the patient greater confidence to engage in daily activities.A study by Kessler[2] assessed patients performing CISC over a 5-year period and described that most of the patients found CISC to be easy and not meddling with day to day activities.

CISC is a simple and rapid procedure which allows patients to self-sufficiently manage bladder emptying, decreasing bladder symptoms, and maintaining renal functions.

Indications for Intermittent Catheterisation:[13]Posterior Urethral Valve, Neuropathic Bladder, Spinal Dysraphism, Multiple Sclerosis, Spinal Cord Tumour and Injury, Disc Prolapse, Diabetic Neuropathy, Transverse Myelitis, Acontractile Bladder, Post Operative Retention Following Bladder Reconstruction.

Factors Affecting Adherence: Both internal and external factors may act as hurdles to effective Clean intermittent self catheterization. Internal factors comprise of Physical incapacities, Positioning, Dexterity, Anatomical, Cognition, Psychological barriers to CISC, Misconceptions and anxiety, Visual impairment, Embarrassment and poor confidence, Stigma,Fears. External factors affecting adherence to performing CISC are Inavailability of applicable catheters and supporting appliances, Quality of teaching and the training atmosphere, Insufficient amenities in public urinals, Community follow-up and access to help or advice, Involving care takers.

Complications of CISC: The most common complication of CISC is Urinary tract infection. UTIs can be reduced by teaching appropriately about hygiene and aseptic techniques of Clean intermittent Self Catheterization.[14,15] Other complications like bleeding and pain, because of trauma while performing the technique are obstacles to effective catheterization.

Benefits of CISC: One of the major benefits of CISC is, it gives confidence to the patient to regain social freedom and individual control over bladder function. [16] Patients will be less reliant on caregivers and should find certain day to day activities, less troublesome than when having an intrinsic catheter. Choosing clothing may be easier too without any need to consider drainage bags, and mobility is not slowed down by having to carry urine drainage bag. [16]

Disadvantages of CISC: Patients carrying out CISC are at risk of UTI, although much less than what with intrinsic catheters.Some patients find difficulty in inserting or removing the catheter. For those patients,various types of catheters with lubricant or hydrophilic layer are available in the market. Some patients find the psychological effects of CISC the major disadvantage and some have difficulty in understanding that they have to continue using it for many years.These factors can lead to poor compliance.

Quality of Life: The Quality of life of voiding dysfunction patients using clean intermittent self catheterization can be enhanced by the improvement of the urinary system, independence, and self confidence; reduction of signal, and symptoms of urinary incontinence (UI) and urinary tract infection (UTI); and access to professional activities and social inclusion. [17]Multiprofessional support enhances treatment adherence and is fundamental for the demands of the multidimensional issues involving patients using urinary catheterization or their caregiver.

Self Esteem with CISC: Self-esteem is the "feeling of self-appreciation" and is an indispensable emotion for people to adapt to society and live their lives. For children, in particular, the environment in which they are raised contributes profoundly to the development of their self-esteem, which in turn helps them to adapt better to society. CISC technique interrupts daily activities of patients and their caregivers, as it has to be used repetitively, many times. During clean intermittent self-catheterization, it is common to have difficulties regarding backing from the family, and that may cause depression and reduction of daily activities. [18]Children with damaged self-esteem are at risk of developing psychological and social problems, which hinders recovery from low self-esteem. Thus, to recover low self-esteem, it is important for children to accumulate a series of successful experiences of clean intermittent catheterization to create a positive concept of self.[19]

3. Method

The present study was observational study at Tertiary Care hospital to assess the self esteem and quality of life in children and adolescents with clean intermittent self catheterization. The study was conducted for a period of 2 years. A total of 30 patients using self intermittent catheterization were included in the study. Children and adolescents of age 8-18 years using self intermittent catheterization were included in the study and parents of children and adolescents not giving consent, and subjects not giving assent to participate in the study were excluded from study. Consent was taken from the parents for the following study following which assent from the children and adolescents and then assessment was done. Data were collected through interview and review of medical records. Participant's age, sex, level of education, family type, occupation of parents, type of residence and physical activity were obtained through interview. Those assenting to participate in the study after parental consent were asked to answer questionnaire (scales) that was scored and assessed in department of psychiatry.

Who quality of life scale: The WHOQOL-100 quality of life assessment was developed by the WHOQOL Group with fifteen international field centres, simultaneously, in an attempt to develop a quality of life assessment that would be applicable cross-culturally. The WHOQOL-BREF contains a total of 26 questions. To provide a broad and comprehensive assessment, one item from each of the 24 facets contained in the WHOQOL-100 has been included. In addition, two items from the Overall quality of Life and General Health facet have been included.

Self Esteem Rosenberg Scale: A 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree.

DASS Scale: This scale is used to check the co-morbid depression or anxiety or stress in children and adolescents using self intermittent catheterization. The test consists of a list of 21 symptoms, each of which is to be rated on a four point scale of how much you had that symptom in the last

week. The numbers 0, 1, 2 or 3 which indicates how much the statement applied to you.

4. Results

Out of total of 30 patients, 86.67% (26) were males and 13.33%(4) were females. The majority of patients were in age group 16-18 years (30%) followed by age group 11-13 years (26.67%).The majority of patients father were farmers (36.67%) followed by labourer (30%). The mother occupation was mainly homemaker (56.67%).

Patients using intermittent catheterization in our study were having diagnosis of Posterior urethral valves (PUV) in 73.33% patients while 16.67% were having Hydronephrosis, Spinal Cord Tumour and Injury (3.33%), Spinal Dysraphism (3.33%) and Transverse Myelitis (3.33%) .

When we compared the patients according to duration of intermittent catheterization, it was observed that majority of patients using with 6 months-1 year duration (30%), followed by 1-3 years (26.67%) and <6 months (20%) . On comparingpatients according to frequency of intermittent catheterization, it was observed that majority of patients had frequency of 3-4 times/day (56.67%) followed by 1-2 times/day (30%).

By comparing distribution of patients according to WHO quality of life scale among male and female, it was observed that physical QOL in male was 57.3 ±12.1 as compared to 56.1 ±11.8 in females. Similarly, psychological, social, environmental and Health QOL in male was more compared to females.

In Self Esteem Rosenberg Scale among male and female, it was observed that high self esteem among male was 23.08% and in females 25%. Similarly, low self esteem was observed in 15.38% males and 25% females.

In DASS scale for comparing depression among male and female, it was observed that among 26 males depression was observed in 2 (7.69%) male patients while female patients didn't have any depression. On comparing anxiety among patients using DASS scale, it was observed that among 26 males anxiety was observed in 2 (7.69%) male patients while 1out of 4 female patient had anxiety. On comparing stress among patients using DASS scale it was observed that among 26 males stress was observed in 4 (15.38%) male patients while 1of the 4 female patients had stress.

a) Distribution according to age

Age group (years)	No. of patients	Percentage
8-10	6	20
11-13	8	26.67
14-15	7	23.33
16-18	9	30
Total	30	100

b) Distribution according to indication for intermittent catheterization:

Indication	No. of patients	Percentage
Posterior urethral valves (PUV)	22	73.33
Hydronephrosis	5	16.67
Spinal Cord Tumour and Injury	1	3.33
Spinal Dysraphism	1	3.33
Transverse Myelitis	1	3.33
Total	30	100

c) Distribution according to duration of intermittent catheterization:

Duration	No of patients	Percentage
<6 months	6	20
6 months-1 year	9	30
1-3 years	8	26.67
3-5 years	3	10
>5 years	4	13.33
Total	30	100

d) Distribution according to frequency for intermittent catheterization:

Frequency	No of patients	Percentage
1-2 times/ day	9	30
3-4 times/ day	17	56.67
5-6 times/ day	3	10
>6 times/ day	1	3.33
Total	30	100

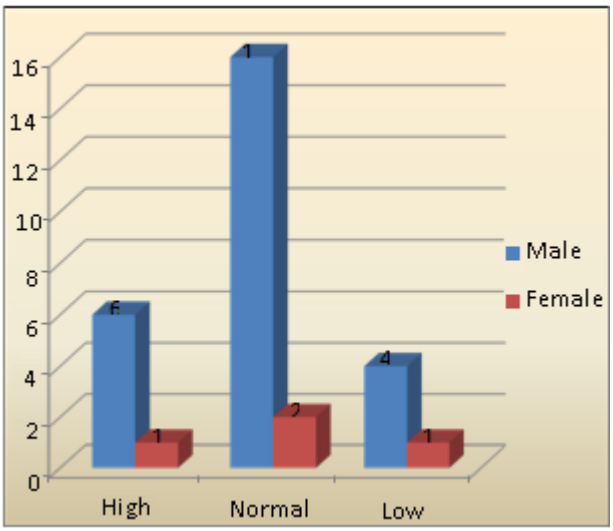
e) Distribution according to WHOQOL domains:

QOL domains	Male (Mean ±SD)	Female (Mean ±SD)	P value
Physical	57.3 ±12.1	56.1 ±11.8	>0.05
Psychological	63.9 ±11.3	62.7 ±10.6	>0.05
Social	62.4 ±12.6	61.5 ±11.8	>0.05
Environment	61.3 ±12.3	60.8 ±12.4	>0.05
QOL (Q:1)	18.1 ±5.4	17.9 ±5.3	>0.05
Health (Q:2)	16.9 ±6.1	16.7 ±6.4	>0.05

f) Distribution according to Self Esteem Rosenberg Scale:

Self Esteem	Male	Female	Total
High	6	1	7
Normal	16	2	18
Low	4	1	5
Total	26	4	30

g) Distribution according to Self Esteem Rosenberg Scale:



h) Depression among patients using DASS scale

Depression	Male (n=26)	Female (n=04)	Total
Normal	24	4	28
Mild	1	0	1
Moderate	1	0	1
Severe	0	0	0
Extremely severe	0	0	0
Total	26	4	30

i) Anxiety among patients using DASS scale:

Anxiety	Male (n=26)	Female (n=04)	Total
Normal	24	3	27
Mild	1	1	2
Moderate	1	0	1
Severe	0	0	0
Extremely severe	0	0	0
Total	26	4	30

j) Stress among patients using DASS scale:

Stress	Male (n=26)	Female (n=04)	Total
Normal	22	3	27
Mild	3	1	4
Moderate	1	0	1
Severe	0	0	0
Extremely severe	0	0	0
Total	26	4	30

5. Discussion

In the present study the distribution of patients according to indication for intermittent catheterization observed that Posterior urethral valves (PUV) alone was found in 73.33% patients while 16.67% were having etiology of Hydronephrosis, Spinal Cord Tumour and Injury (3.33%), Spinal Dysraphism (3.33%) and Transverse Myelitis (3.33%) .In a study by LaísFumincelli et al [21] to measure and relate the quality of life of voiding dysfunction patients by means of clean intermittent self catheterization observed spinal cord injury as the main disorder for using the catheter.In study by Valeria P. Alencar et al [20] on effect of CISC on children's quality of life with lower urinary tract dysfunction where major condition leading to the need to perform CIC included spinal dysraphism in (72.8%).

Similar findings were seen in study by Valeria P. Alencaret al[20] on effect of the CISC on children's quality of life with lower urinary tract dysfunction where mean daily number of catheterizations was 4.2 ± 1.1. The distribution of patients according to WHO quality of life scale among male and female showed that physical QOL in male was 57.3 ±12.1 as compared to 56.1 ±11.8 in females. Similarly, psychological, social, environmental and Health QOL in male was more compared to females.

Ankur Jhanwar et al[22] in a study assessed the patients with urethral strictures on CISC and observed all the parameters of Clean intermittent self catheterization and quality of life questionnaire had improved on continuing CISC. Similar findings were observed in a study by Fumincelli[21] in voiding dysfunction patients to measure and compare the quality of life by using clean intermittent self catheterization where the patients from continent of South America presented superior quality of life scores in the psychological domain and inferior scores in the physical domain . In another similar study the patients from the continent of Europe presented superior scores in the psychological domain and inferior scores in the environmental domain . [21]

6. Future Scope

Quality of life of patients using clean intermittent self catheterization improved the independence, self-confidence and social relationships. A devoted team of professionals are required who could provide exceptional teaching,deals with internal and external barriers of CISC, gives continual advice, reassurance, and support to improve the compliance to CISC and increases the patient's self esteem and quality of life.

As the results found are limited to a small sample, further research is needed with large sample in order to appreciate the psychological and emotional effect of CISC so that patient care,needs and compliance with the procedure can be improved.

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