

Original Research Article

Assessment of quality of life of spouses of young male catheterized patients

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ABSTRACT

Background: It is needless to mention that, per-urethral or supra-pubic catheter compromises the Quality of Life (QoL) of young male patients. But present study is about the QoL of spouses of those patients and we compared their status of QoL after removal of catheter of patients with catheterized status.

Methods: Authors used three tools named World Health Organization Quality of Life scale (WHOQOL BREF), Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) for this purpose.

Results: Authors found statistically significant improvements in all domains of QoL as measured by WHOQOL BREF, improvement in depression and anxiety status as well, measured by Beck Depression Inventory (BDI) and Beck Anxiety Inventory (BAI) respectively.

Conclusions: Present study concluded with the notion to reiterate the fact that the health of spouse has also to be considered about and to be restored into normal state if found abnormal.

Keywords: BAI, BDI, Catheterization, QoL, Spouse, WHOQOL BREF

INTRODUCTION

It is a known fact that catheterization (per urethral or supra-pubic) can lead to poor quality of life. Young male patients may present with urinary retention due to various reasons like urethral stricture disease, bladder neck obstruction, bladder or urethral stone disease etc. They may require catheterization if they develop acute urinary retention. Many of those patients require some form of surgical intervention before removal of catheter. All these interventions and the status of per urethral or supra-pubic “catheter in situ” affect not only the physical, social, sexual and emotional health of patient but also of the immediate family member of patient specially his spouse.

As the science progressed and we have witnessed much advancement in health care delivery system globally, the

need for studies on Quality of Life (QoL) became conspicuous. In present study authors wanted to quantify the quality of life (QoL) experienced by spouses of patients following catheterization of patients and also to assess the improvement of QoL after catheter removal of patients following surgical intervention.

When authors ventured into search of literature on quality of life of spouses of catheterized patients’ authors appreciated the dearth of studies on this aspect.

Authors were able to find out few studies on QoL of spouses of patients with Alzheimer’s disease or patients with cancer or depression etc. One of the studies concluded that the spouses of patients of Alzheimer’s disease had a lower QoL than any healthy elderly individual or even the patients with Alzheimer’s disease.¹

Here lies the importance of this kind of studies which give us clues to expedite the implementation of health services directed to improve the QoL and to reduce burden of family members specially spouses of patients and to explore new horizon of interventions too.

Authors went through another article which tells a sort of similar story. This study concluded that the urethral stricture disease impacts the QoL of family members and spouses of patients in a negative direction.² The literature also reiterates the importance of family conferences and counselling sessions regarding basic education on the disease process and the treatment or interventions related to it.²

Hence, authors decided to study the status of QoL of spouses of young male catheterized patients.

METHODS

The study was done at the Urology Department of IPGMER Kolkata, West Bengal, India. Prior approval was taken from the Institutional Ethical Committee. In this prospective study from 16th March 2017 to 15th March 2018 spouses of young male catheterized patients (21-40 years) were included for the study and those denying consent were excluded. QoL Questionnaire is given to spouses of patients following two weeks of per urethral catheter (PUC) / supra-pubic catheter (SPC) insertion in patients. The spouses of patients undergoing surgical intervention for catheter removal are again administered QOL questionnaire following 2 weeks of PUC/SPC removal of the patients. Authors compared the data of both states by standard statistical analysis. Sample size was 31. The spouses of patients are assessed for quality of life by using following instruments.

Following 2 weeks after catheterization of patient (before any intervention)

- WHOQOL-BREF³
- BAI (Beck Anxiety Inventory)⁴
- BDI (Beck's Depression Inventory)⁵

Following 2 weeks after the patient becomes catheter free (following intervention)

- WHOQOL-BREF³
- BAI (Beck Anxiety Inventory)⁴
- BDI (Beck's Depression Inventory)⁵

WHOQOL BREF is an instrument devised by World Health Organization to assess the quality of life in human subjects. This questionnaire is about how the subject feels about his quality of life, health, or other areas of his life. He has to answer all the questions. If he is unsure about which response to give to a question, he is instructed to choose the one which appears most appropriate. There are 26 items and four domains named

- Domain 1: Physical health,
- Domain 2: Psychological,
- Domain 3: Social relationships,
- Domain 4: Environment.

Scores are summed up according to domain and are analyzed.

Beck anxiety inventory is a self-report measure of anxiety. There are 21 items in this scale which are common symptoms of anxiety. The subject or patient has to score each item according to his/her anxiety level. Then the scores are summed up. Score of 0 to 21 dictates low anxiety. Score of 22 to 35 dictates moderate anxiety and Score of 36 and above reads aloud potentially concerning levels of anxiety.

Beck's Depression Inventory is a similar kind of scale measuring depression. There are 21 questions and the subject have to score each of them. The total score will tell us the state of depression in the subject. The scoring system is described in Table 1.

Table 1: Beck's depression inventory score.

Total score	Levels of depression
1-10	These ups and downs are normal
11-16	Mild mood disturbance
17-20	Borderline clinical depression
21-30	Moderate depression
31-40	Severe depression
Over 40	Extreme depression

RESULTS

Statistical Analysis was performed with help of EPI INFO (TM) 7.2.2.2; EPI INFO is a trademark of the Centers for Disease Control and Prevention (CDC). Descriptive statistical analysis was performed to calculate the means with corresponding standard deviations (S.D.). Test of proportion was used to find the Standard Normal Deviate (Z) to compare the difference proportions. T-test was used to compare the means. $p < 0.05$ was taken to be statistically significant.

For Domain-1 (physical health)

Range of raw score of WHOQOL BREF (domain 1) in catheterized state was 14 to 24; whereas that after catheter removal was 16 to 24. Though the means of all the scores after the removal of catheter was higher than that of at catheterized state, t-test showed that it was not significantly higher ($p > 0.05$) (Table 2).

For Domain-2 (psychological health)

Range of raw score of WHOQOL BREF (Domain 2) in catheterized state was 13 to 19; whereas that after catheter removal was 17 to 21.

T-test showed that the means of all the scores after the removal of catheter was significantly higher than that of at catheterized state (p <0.01). Thus, the mean of all the

scores after the removal of catheter significantly increased (Table 3).

Table 2: Comparison of WHOQOL BREF score for domain-1 of the spouses of the patients.

Descriptive statistics	Raw score		Transformed score (4-20)		Transformed score (0-100)	
	Catheterized state	After catheter removal	Catheterized state	After catheter removal	Catheterized state	After catheter removal
Mean±SD	18.84±3.10	20.16±2.56	10.87±1.82	11.61±1.54	43.06±11.47	47.65±9.64
Median	19.00	21.00	11.00	12.00	44.00	50.00
Range	14 - 24	16 - 24	8 - 14	9 - 14	25 - 63	31 - 63
t-test	1.83		1.73		1.70	
p-value	0.07 NS		0.08 NS		0.09 NS	

*Statistically significant; NS- Statistically not significant.

Table 3: Comparison of WHOQOL BREF score for domain-2 of the spouses of the patients.

Descriptive statistics	Raw score		Transformed score (4-20)		Transformed score (0-100)	
	Catheterized state	After catheter removal	Catheterized state	After catheter removal	Catheterized state	After catheter removal
Mean±SD	16.61±2.46	18.65±1.31	11.26±1.71	12.35±0.95	45.23±10.71	52.23±5.88
Median	18.00	18.00	12.00	12.00	50.00	50.00
Range	13 - 19	17 - 21	9 - 13	11 - 14	31 - 56	44 - 63
t-test	4.06		3.11		3.18	
p-value	<0.0001*		0.0031*		0.0025*	

*Statistically significant; NS- Statistically not significant.

Table 4: Comparison of WHOQOL BREF score for domain-3 of the spouses of the patients.

Descriptive statistics	Raw score		Transformed score (4-20)		Transformed score (0-100)	
	Catheterized state	After catheter removal	Catheterized state	After catheter removal	Catheterized state	After catheter removal
Mean±SD	8.16±1.68	10.19±1.92	10.84±2.34	12.84±1.90	42.71±14.71	55.26±11.98
Median	8.00	10.00	11.00	13.00	44.00	56.00
Range	6 - 11	7 - 16	8 - 15	9 - 15	25 - 69	31 - 69
t-test	4.43		3.69		3.68	
p-value	<0.0001*		<0.0001*		<0.0001*	

*Statistically significant; NS- Statistically not significant.

For Domain-3 (social relationships)

Range of raw score of WHOQOL BREF (Domain 3) in catheterised state was 6 to 11; whereas that after catheter removal was 7 to 16. T-test showed that the means of all the scores after the removal of catheter was significantly higher than that of at catheterized state (p <0.0001). Thus, the mean of all the scores after the removal of catheter significantly increased (Table 4).

For Domain-4 (environment)

Range of raw score of WHOQOL BREF (Domain 4) in catheterised state was 16 to 23; whereas that after catheter removal was 17 to 27. T-test showed that the means of all

the scores after the removal of catheter was significantly higher than that of at catheterized state (p<0.0001). Thus, the mean of all the scores after the removal of catheter significantly increased (Table 5).

Analysis of total Beck Anxiety Inventory (BAI) score of the spouses of patients

Range of raw score of WHOQOL BREF (Domain 4) in catheterised state was 16 to 23; whereas that after catheter removal was 17 to 27. T-test showed that the means of all the scores after the removal of catheter was significantly higher than that of at catheterized state (p <0.0001). Thus, the mean of all the scores after the removal of catheter significantly increased (Table 5).

Analysis of total Beck Anxiety Inventory (BAI) score of the spouses of patients

Test of proportion of showed that proportion of spouse of the patients with low anxiety after removal of catheter (64.5%) was significantly higher than that of at

catheterized state (35.5%) (Z=4.10; p<0.001). Also, proportion of the spouses of patients with moderate anxiety at after removal of catheter state (35.5%) was significantly lower than that of at catheterized state (67.4%) (Z=4.10; p<0.001).

Table 5: Comparison of WHOQOL BREF score for domain-4 of the spouses of the patients.

Descriptive statistics	Raw score		Transformed score (4-20)		Transformed score (0-100)	
	Catheterized state	After catheter removal	Catheterized state	After catheter removal	Catheterized state	After catheter removal
Mean±SD	19.55±2.35	23.45±2.28	10.03±1.20	12.13±0.88	37.84±7.59	50.81±5.38
Median	20.00	24.00	10.00	12.00	38.00	50.00
Range	16 - 23	17 - 27	8 - 12	11 - 14	25 - 50	44 - 63
t-test	6.64		7.84		7.76	
p-value	<0.0001*		<0.0001*		<0.0001*	

*Statistically significant; NS- Statistically not significant

Table 6: Comparison of total Beck Anxiety Inventory (BAI) score of the spouses of patients.

Descriptive statistics	Catheterized state (n=31)	After removal of catheter (n=31)	t-test (t ₆₀)	p-value
Mean±SD	22.71±4.20	18.94±4.54	3.39	0.0012*
Median	23.00	19.00		
Range	15 - 29	12 - 24		

*Statistically significant; NS- Statistically not significant

Table 7: Comparison of state of anxiety according to Beck Anxiety Inventory (BAI) score of the spouses of patients.

State of anxiety	Catheterized state (n=31)		After removal of catheter (n=31)		Z-test	p-value
	Number	%	Number	%		
Low anxiety (BAI=0-21)	11	35.5%	20	64.5%	4.10	<0.001*
Moderate anxiety (BAI=22-35)	20	64.5%	11	35.5%	4.10	<0.001*
Potentially concerning levels of anxiety (BAI≥36)	0	0.0%	0	0.0%	0.01	0.99 NS
Total	43	100.0%	43	100.0%		

*Statistically significant; NS- Statistically not significant

Table 8: Comparison of total Beck's Depression Inventory (BDI) score of the spouses of patients.

Descriptive statistics	Catheterized state (n=31)	After removal of catheter (n=31)	t-test (t ₈₄)	p-value
Mean±SD	22.71±4.20	18.94±4.54	3.17	0.0023*
Median	23.00	19.00		
Range	15 - 29	12 - 24		

*Statistically significant; NS- Statistically not significant

There was no spouse of the patients with potentially concerning levels of anxiety both at catheterized state and after removal of catheter.

Thus, in overall, the state of anxiety of the spouse of the patients after removal of catheter improved significantly as compared to catheterized state (p <0.001) (Table 7 and Figure 2).

Analysis of total Beck's Depression Inventory (BDI) score of the spouses of patients

T-test showed that the mean total BDI score after the removal of catheter was significantly lower than that of at catheterized state (t₈₄ = 3.17; p=0.0023). Thus, the mean total BDI score after the removal of catheter significantly decreased (Table 8).

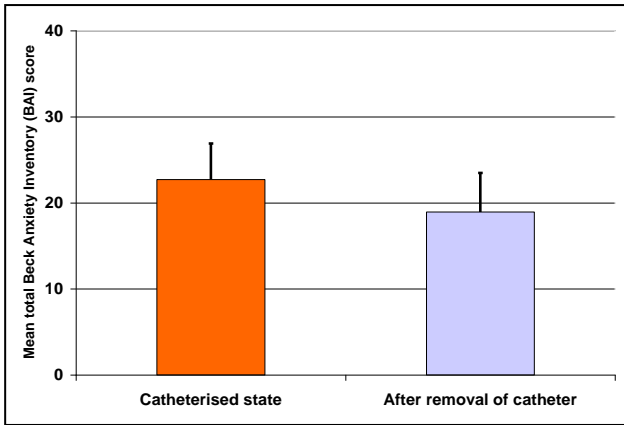


Figure 1: Comparison of Beck Anxiety Inventory (BAI) score of the spouses of patients.

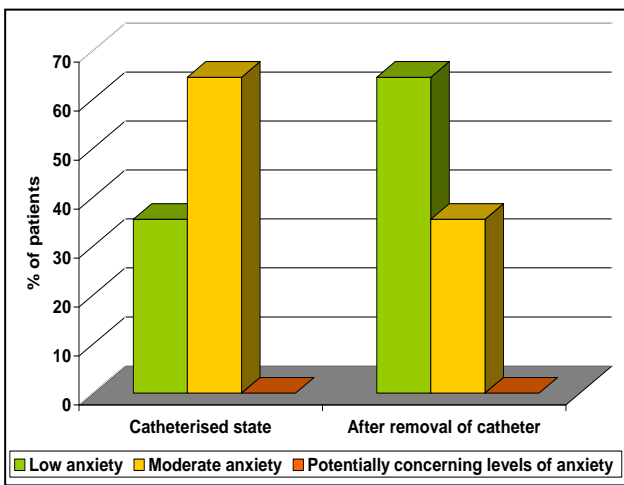


Figure 2: Comparison of state of anxiety according to BAI score of the spouses of patients.

DISCUSSION

Weese JR et al, has rightly said in their article that there is dearth of articles regarding QoL of spouses of stricture urethra patients despite the fact that there exists a lot of publications regarding quality of life of stricture urethra patients or patients with catheterized (PUC/SPC) state.² They with help of a unique questionnaire containing 12 questions, assessed the QoL of family members of urethral stricture patients and concluded that, the quality of life of family members are negatively impacted by the status of anterior urethral stricture disease. The setbacks comprise of shrunken social interactions, interruption of sleep, emotional stress in addition to messed up sexual intimacy. A good number of studies have intimated us regarding the health issues of family members or spouses or caregivers of patients as a consequence of the disease status of the patients. Authors would like to mention few of them.

Chen ML et al, after their study on impact of cancer patients' quality of life on that of spouse caregivers have

concluded that, QoL of spouse or caregivers of patients are influenced by the social and functional aspects of patients' QoL.⁶ Moreover, the association between patients' QoL and spouse or caregivers' QoL can be influenced by some factors like cancer diagnosis, care giving amount and duration, duration of hospitalization, marital contentment, and self-esteem of care givers.

Wang et al, in their study found that a person with partner suffering from depression needs social support to improve his or her quality of life.⁷

Fumincelli L et al, after their study assessing the QoL of patient on intermittent self catheterization using the same instrument as of us (WHOQOL BREF) concluded that improvement in the urinary symptoms, self-confidence, access to work activities, independence as well as social relationships and social insertion can determine the QoL of neurogenic bladder patients using intermittent urinary catheterization.⁸

They clearly indicated that the social relationships which include the relationship with spouse are tremendously important aspects to improve the QoL of patients and here lies the importance of assessing the QoL of the spouses of patients.

Schober JP et al, had concluded in their study that there exists a considerable amount of anxiety and depression amongst patients of stricture urethra and following corrective surgeries there is a documented decreased quantum of anxiety and depression.⁹ But their work did not unveil the status of QoL of the spouses of those patients as the patients of stricture urethra usually have SPC in situ.

Lucas ET et al, have stated that significant improvements in urinary symptoms and in quality of life occur after urethroplasty and they are correlated with objective measures.¹⁰ Nevertheless the quantification of QoL of spouses of those patients was not within the compass of their study.

James R et al, documented that a good number of catheterized Multiple Sclerosis patients had reported negative or positive changes in QoL related to urinary catheterization.¹¹ Lubahn JD et al, concluded in their study that most of the patients with urethral stricture disease who are on intermittent self-dilation have expressed moderate difficulty and pain, and minimal inconvenience while doing self-dilatation, but they had reported poor quality of life.¹² Both the studies did not comment about QoL of their spouses or caregivers.

Hence, in present study, authors intended to assess the QoL of Spouses of young male catheterized patients by means of the following instruments: WHOQOL BREF, BAI and BDI. Authors compared the catheterized state with the status of post catheter removal. Authors also did

appreciate the scarcity of literature in this aspect and tried to explore this point of horizon.

Authors found that there were statistically significant improvements in QoL of spouses of patients in state after catheter removal in all domains of WHOQOL BREF. There were also statistically significant improvements in anxiety and depression status of spouses when measured by BAI and BDI respectively.

CONCLUSION

QoL is an important aspect to be enquired into in today's perspective when the question comes about patient's management. That's why we studied the QoL of spouses of patients with PUC or SPC in situ and we compared the status of their QoL after removal of PUC/SPC of the patients. Our study concluded with the notion to reiterate the fact that the health of spouse has also to be considered about and to be restored into normal state if found abnormal. Authors found statistically significant improvements in all aspect of QoL as measured by abovementioned tools.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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