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Research Paper

Knowledge and Anxiety Among Patients Undergoing Elective Invasive Urologic Procedures in Tertiary Hospital,Udupi Taluk

Nursing

KEYWORDS :

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ABSTRACT

Background : *Kidney is the vital organ that helps excrete metabolic wastes from the body and maintain hemostasis. As per 2011 WHO statistics, incidence of kidney disease in the world is about one in 10 people. Death rate due to kidney disease in India accounts to about 218 per one million population. According to a study done by Anupama (2014) among 2091 patients in Shimoga, Karnataka showed that 16.54 % of the population had chronic kidney disease.*

Objectives of the study: *were to assess the knowledge of patients' undergoing elective invasive Urologic procedures, to assess the anxiety of patients' undergoing elective invasive Urologic procedures, to find the relationship between knowledge and anxiety among patients' undergoing elective invasive Urologic procedures*

Methods: *descriptive survey design with purposive sampling technique was used to collect data from 103 patients who were posted for elective Invasive Urologic procedures in wtertiary hospital, Udupi taluk.*

Results: *The results showed that majority (54.37%) of participants had average level of knowledge of the procedure and 91.26% patients had significant anxiety. It also showed that there was significant negative relationship between anxiety and knowledge*

Conclusion: *Lower pre-procedural knowledge regarding the elective invasive urologic procedure can lead to higher levels of anxiety in patients.*

Introduction:

Kidney is a vital organ in the human body and serves several functions such as removing wastes like urea and uric acid, maintaining balance of sodium, potassium and calcium, regulation of acid-base balance in the body, and controlling of blood pressure and volume. As per 2011 WHO statistics, incidence of kidney disease in the world is about one in 10 people. An estimate of one lakh new patients require Renal Replacement Therapy for End Stage Renal Disease (ESRD). Death rate due to kidney disease in India accounts to about 218 per one million population. As per Centers of Disease Control and Prevention, 3.9 million adults were diagnosed with kidney disease by the end of 2012 and number of deaths due to kidney conditions in the population of one million has reached up to 149 by the year of 2013, making it the world's 9th death rank killer. A study done among 2091 patients in Shimoga, Karnataka showed that 16.54 % of the population had chronic kidney disease (Anupama, 2014). This increasing incidence can be contributed to various causes such as reduction in blood flow to the kidneys, trauma to the kidney, excess intake of dietary sodium, obstruction in voiding of urine, pregnancy, damage due to drugs and toxins, immune system conditions, inflammation of glomeruli, congenital defects etc. To manage this increasing renal system problems various diagnostic and therapeutic procedures are done on day to day basis. Diagnostic and treatment modalities available for renal conditions can be categorized as invasive and non-invasive procedures. Invasive procedures are mainly Renal Biopsy, Prostate Biopsy, Testicular Biopsy, Cystoscopy, Ureteroscopy, Urethroscopy, Percutaneous Nephrolithotomy (PCNL), Pyelography, Transurethral Resection of Prostate (TURP) and Nephrectomy.

Though these procedures are done for diagnostic and therapeutic purposes, they also have psychological effects on the patient. Patients may experience some degree of anxiety when they have to undergo such procedures.

The aim of this study is to assess patient's pre-procedural knowledge, anxiety and the relationship between this knowledge and anxiety.

Methods:

Survey approach with descriptive survey design was used for the study. A total of 103 patients were included who were undergoing invasive urologic procedures in Tertiary Hospital,Udupi Taluk in the month of January and February, 2015. The patients undergoing four procedures were included in the study, namely Cystoscopy, Renal biopsy, Percutaneous Nephrolithotomy (PCNL) and Urethral stricture repair. Patients 20 years of age, with reading and writing ability of English or Kannada language and should be undergoing elective invasive urologic procedure was included in the study. Purposive sampling was done for selecting the sample for the study.

Administrative permissions were taken from Institutional Ethical Committee of respective institutional authorities. Informed consent were taken from the patients prior to the study.

Tools used for data collection were: Personal profile, Clinical Proforma, State Trait Anxiety Inventory (STAI) and Knowledge Questionnaire (Part A: anatomy and physiology of Renal System, Part B: knowledge questionnaire regarding the particular procedure).

STAI is a self-administered, standardized scale that has two sections STAI Y1 and STAI Y2. STAI Y1 scale measured anxiety of the patient generally in day to day situations, while STAI Y2 scale measured anxiety of patient just before the procedure. Each section of STAI consisted of 20 questions. The STAI scales had maximum score of 160, in which 80 was the maximum score on each of it (STAI Y1 and STAI Y2). The interpretation of the scores revealed, the higher the score, the greater the anxiety. The tool was not validated as it is a standardized tool with reliability coefficient ranging from 0.31 to 0.86

The knowledge questionnaire had 30 questions with 2 parts. The maximum score of knowledge questionnaire was 30 with each question carrying one mark each. The scores were arbitrarily categorized as Good (21-30), Average (11-20) and Poor (0-10). The tool was validated by seven experts from nephrology and Urology department and the reliability coefficient of knowledge questionnaire was established using Cronbach's alpha and was

found to be 0.81.

Data collection was done in two phases. First phase was done on previous day of the procedure and consisted of Personal Profile, Clinical Profile, STAI Y1 scale and knowledge questionnaire of the procedure for which the patient was posted. Second phase data collection was done one hour before the procedure and consisted of STAI Y2 scale.

Results:

SPSS 16 version was used for statistical analysis. The data presented in table 1 show that Among 103 participants who underwent elective invasive Urologic procedures, 53.40% belonged to the age group of 41-60 years. Majority 77 (74.76%) of the patients were males and 67 (65.06%) of the patients were married. Most (39.81%) were with high school level of education and 28.16% were found to be skilled workers.Among the participants, 88.36% belonged to Hindu religion. The participants monthly family income ranged from Rs. 10,001 to Rs.15, 000 (37.86%). The same has been depicted in table 1.

The data represented in table 2 shows that Renal Calculi (45.63%) was the major diagnosis among 103 participants posted for elective invasive Urologic procedure followed by urethral stricture (24.27). Among the participants 33.98 % presented with hypertension, while 31.06% patients reported absence of any other comorbidities. Maximum participants were subjected to PCNL procedure (51.45%). Majority (54.36%) seeked medical attention within one year of presenting with symptoms. The elective invasive Urologic procedures were commonly done for therapeutic purposes (55.34%) followed by both diagnostic and therapeutic purposes (28.15%). They were rarely done only for diagnostic purposes. Among the patients majority (90.47%) had first exposure with the procedure.

The data represented in table 3 shows that out of 103 participants 54.37% presented with average level of knowledge and only 6.8% had good level of knowledge.

The data represented in table 4 shows that out of 103 participants 47.82% of patients who underwent cystoscopy, 57.90 % who underwent PCNL and all patients who underwent renal biopsy had average level of knowledge. All patients who underwent urethral stricture repair had good level of knowledge.

As per the study conducted on norms and reliability for STAI scale, (Knight, 1983) and state and trait anxiety in women (Addolorato, 1999), a score of 39-40 has been suggested as a cut-off point for State anxiety scale. The data represented in table 5 show that most of them had the anxiety score between 40-80.It can be interpreted that they were anxious about the procedure.

The data represented in table 6 shows that among 103 participants, the anxiety level of those who underwent cystoscopy was 86.96% and PCNL was 89.48%. All patients undergoing renal biopsy and urethral stricture repair had significant levels of anxiety.

Pearsons' test was computed inorder to find the relationship between patients pre-procedural knowledge and state anxiety scores.

The data represented in table 7 showed that there was a high negative correlation (-0.811) between pre-procedural knowledge and state anxiety of patients. It also shows that mean difference between pre-procedural knowledge and state anxiety of patients is significant at $p< 0.001$. Thus it was concluded that better the knowledge scores the patients will have less anxiety.

Discussion:

The study findings show that there was a high negative correlation (-0.811) between pre-procedural knowledge and anxiety of patients. It implies that the lesser the knowledge level of the patient regarding the procedure, the greater the anxiety. This was supported by another study that was conducted by Cserép (2012) to assess relationship between preoperative anxiety and knowledge on long term mortality for 7.5 years of patients after cardiac surgery. Among 180 patients who were enrolled in the study from July 2001 and followed up for 10 years patients were contacted annually by mail and were made to fill STAI scale and Becks Depression inventory. The results showed that patients with higher pre-operative anxiety scores and low education level had high mortality rates during the follow up period.

A randomized prospective study was conducted by Shukla (2012) to determine the effectiveness of oral information, written information and video information on the patients' level of understanding of the cataract surgery. The patients' included in the study were divided into 4 groups mainly. The first group received verbal information about the procedure, the second group received verbal cum brochure with second grade reading level on the procedure, the third group received brochure with eighth grade reading level and the fourth group received patient education DVD. The results of the study showed that a group of patients' with verbal information and video scored significantly higher scores in the questionnaire compared to the groups who received only brochure.

Conclusion:

Based on the present study finding it was evident that majority 94 (91.26%) of participants who underwent elective invasive urologic procedure were anxious. Also there was statistically significant negative relation between patients pre-procedural knowledge score and pre-procedural state anxiety score ($p<0.001$) implying that the higher the patients level of knowledge, the lower the state anxiety. This gap in patients knowledge must be filled by the health professional by providing them with adequate knowledge about the procedure and attending to their doubts. It not only ensures increase in knowledge but also helps the patient to take precautions and avoid complications related to the procedure.

Table 1: Demographic characteristics of sample in frequency and percentage. (n=103)

Variable	(f)	(%)
Patient age (Yrs.)		
20-40	19	55
41-60	55	53.40
>60	29	28.16
Gender		
Male	77	74.76
Female	26	25.24
Marital status		
Married	67	65.06
Unmarried	18	17.47
Divorced	5	4.85
Staying separate	13	12.62
Education		
Below high school	41	39.81
Pre-degree	33	32.03
Graduate	12	11.66
Post graduate	11	10.68
professional	6	5.82
Occupation		
Unemployed	18	17.48
Student	6	5.83
Housewife	10	9.7
Unskilled worker	22	21.35
Skilled worker	29	28.16
Business	18	17.48

Religion		
Hindu	91	88.36
Muslim	6	5.82
Christian	6	5.82
Monthly family income		
Less than Rs. 5000	4	3.88
Rs. 5001- Rs. 10,000	30	29.13
Rs.10,001- Rs. 15,000	39	37.86
More than Rs. 15,001	30	29.13

Table 2: Clinical characteristics of sample in frequency and percentage **(n=103)**

Variable	(f)	(%)
Medical diagnosis		
Bladder tumor	6	5.82
Lower Urinary Tract symptoms (LUTS)		
Renal Calculus	7	6.79
	47	45.63
Urethral stricture	25	24.27
Cancer Cervix	2	1.94
Genito- Urinary		
Tuberculosis (GUTB)	1	0.97
Stress Urinary		
Incontinence (SUI)	1	0.97
Cystitis	10	9.7
Hydroureteronephritis	4	3.88
Comorbidities		
None	32	31.06
Diabetes Miletus	6	5.82
Hypertension	35	33.98
Diabetes and Hypertension		
	30	19.41
Type of Anesthesia		
General	53	51.45
Local	6	5.82
Spinal	44	42.71
Type of procedure		
Cystoscopy	23	22.33
Renal Biopsy	4	3.88
Percutaneous Nephrolithotomy (PCNL)	57	55.33
Urethral Stricture Repair	19	18.44
Duration of illness		
< 1 year	56	54.36
1- 2 year	38	36.89
>2 years	9	8.73
Purpose of the procedure		
Diagnostic	17	16.50
Therapeutic	57	55.34
Diagnostic and Therapeutic	29	28.15
Personal experience with the procedure		
Yes	21	20.38
Once	19	90.47
twice	2	9.52
No	82	79.61

Table 3: Frequency and percentage distribution of pre-procedural knowledge scores of patients.

(n=103)

Variable	f	%	Mean	SD
Good	7	6.80	19.16	5.23
average	56	54.37		
Poor	40	38.83		

Table 4: Frequency and percentage distribution of procedural knowledge based on different procedures

(n=103)

Variable	f	%	Mean	SD
Cystoscopy				
Good	9	39.13		
Average	11	47.82	18.52	6.61
Poor	3	13.05		
Renal biopsy				
Good	-	-		
Average	4	100	16.75	2.06
Poor	-	-		
Percutaneous Nephrolithotomy				
Good	20	35.10		
Average	33	57.90	19.08	5.07
Poor	4	7.01		
Urethral Stricture Repair				
Good	11	57.89		
Average	8	42.10	20.68	4.05
Poor	-	-		

Table 5: Pre-procedural anxiety (state anxiety score) of patients' in frequency and percentage.

(n=103)

Level of anxiety	f	%	Mean	SD
State score 20- 39	9	8.74	52.3	7.04
State score 40-80	94	91.26		

As per the study conducted on norms and reliability for STAI scale, (Knight, 1983) and state and trait anxiety in women (Addolorato, 1999), 39-40 has been suggested as a cut-off point for State anxiety scale.

Table 6: Frequency and percentage distribution of pre-procedural anxiety (state anxiety score) of patients' based on different procedures

(n=103)

Level of anxiety	f	%	Mean	SD
Cystoscopy				
State score 20-39	3	13.04	54.39	10.22
State score 40-80	20	86.96		
Renal Biopsy				
State score 20-39	-	-	51.75	1.05
State score 40-80	4	100		
Percutaneous Nephrolithotomy				
State score 20-39	6	10.52	51.33	6.55
State score 40-80	51	89.48		
Urethral Stricture Repair				
State score 20-39				
State score 40-80	-	-	52.89	3.21
	19	100		

Table 7: Relationship between knowledge and anxiety of patient undergoing elective invasive Urologic procedures.

(n=103)

Variable	r value	p value	Significance
Knowledge	-0.811	0.001	S
Anxiety			

Key: S- Significant

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