

Physical and Emotional Discomfort Experienced by patients Undergoing Cystoscopy

¹Naglaa Fathalla Elsayed, ²Ola Ezzat Eltohamy

¹Lecturer of Medical-Surgical Nursing, Faculty of Nursing, Alexandria University, Egypt

²Lecturer of Gerantological Nursing, Faculty of Nursing, Damanhour University, Egypt

Abstract: Cystoscopy is endoscopy of the urinary bladder via the urethra. It may be performed for either diagnostic or therapeutic purposes. There is limited data on the difficulty of the procedure and the factors associated with significant pain, physical and emotional discomfort experienced by those patients during cystoscopy procedure. **Objectives:** this study aims to determine physical and emotional discomfort experienced by patients undergoing cystoscopy. **Setting:** The study was conducted in a urology department of Alexandria Main University Hospital, Alexandria, Egypt. **Subjects:** The study was conducted with a total of 90 patients aged between 18 and 60 undergoing cystoscopy procedure. A socio demographic, clinical characteristics structured questionnaire, were developed by the researchers and used for data collection. Each patient was interviewed individually for about 30 minutes after brief explanation of the study objective and assuring information confidentiality. Pain score was recorded after the procedure using the numeric analogue scale (NAS). State Trait Anxiety Inventory (STAI) scale used to measure emotional discomfort reported by the patient after cystoscopy. **Results:** The results of this study revealed that; physical discomfort total score was (66.7%) of the patients which indicate moderate discomfort. As regard assessment of pain level (37.8%) experience moderate and high level of pain, while; approximately half of the patients report high level of emotional discomfort. Pain, headache and dizziness, urgency and dysuria were the most commonly reported component of physical discomfort (93.3, 61.1, 100%) respectively, while anxiety (27.7%) was the most commonly reported item of emotional discomfort. **Conclusion:** cystoscopy procedure was well tolerated with mild to moderate physical discomfort and high level of emotional discomfort among patients undergoing cystoscopy. **Recommendation:** The results of this study recommended that; detailed explanation to patients who underwent cystoscopy can reduce the pain and anxiety level associated with the procedure.

Keywords: Cystoscopy, physical discomfort, pain, emotional discomfort.

1. INTRODUCTION

Cystoscopy is a common urologic examination indicated for a wide variety of genitourinary conditions ^(1, 2). Cystoscopy was first conceptualized over two centuries ago and underwent multiple advancements in technology to allow patients to undergo the procedure with relative comfort. Regardless of the reason for the inspection, however, cystoscopy is invasive procedure and can be a distressing experience for patients ^(3, 4).

Cystoscopy also called as urethroscopy; it is an important diagnostic tool in the field of urology. This procedure may be used to allow direct visual examination of the macroscopic pathology in the lower urinary tract, access to the upper urinary tract for diagnostic and therapeutic interventions and in order to obtain material for pathological examinations ⁽⁵⁻⁷⁾.

Pain is a subjective, multidimensional and highly variable experience for everyone, and requires a critical analysis of pain-related factors and interventions. Pain assessment is crucial if pain management is to be effective. Nurses are in a unique position to assess pain as they have the most contact with patient during post cystoscopy period. Pain is multidimensional therefore assessment must include the intensity, location, duration and description, and factors influence pain perception and coping strategies⁽⁸⁻¹⁰⁾.

Cystoscopy anxiety is a common phenomenon among hospitalized patients and is an emotional state characterized by feelings of tension, nervousness, worry, apprehension and with heightened activity of the autonomic nervous system⁽¹¹⁾. Anxiety has both psychological and physical effects; the psycho-physiological stress response involves activation of the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system and is characterized by increased heart rate, blood pressure and cardiac output^(12, 13).

The first nurse endoscopists practiced were at the Majo Clinic in the USA in the late 1970s and early 1980s. The first publication on the careful and safe execution of rectosigmoidoscopies (insertion 30 cm) was published in 2000. Since then the concept of the nurse endoscopist has been introduced successfully in several countries⁽¹⁴⁾.

Nursing professionals who work in endoscopy units; providing patients with the care required before (pre procedure), during and after the procedure (post procedure), should have specific training to be able to carry out their duties in these units and to be able to manage the materials and equipment required, so that they may contribute to the success of these procedures⁽¹⁵⁻¹⁷⁾.

Cystoscopy may provoke anxiety in patients and sometimes should be requested to be performed under general anesthesia^(18, 19). Prior to the procedure, anxiety may preclude the comfortableness of the patients and decrease the overall tolerability. In addition ethical considerations do not permit performing cystoscopies with no explanation^(20, 21).

The study aims to determine physical and emotional discomfort experienced by patients undergoing cystoscopy. Despite their invasive nature, as recognized by the urological community, comprehensive evaluations of patients' experience during cystoscopy are scarcely reported in the literature. Thus the present study assessed physical and psychological discomfort associated with such procedures.

2. MATERIALS AND METHOD

MATERIALS

Research Questions:

What is the physical and emotional discomfort experienced by patients undergoing cystoscopy?

Aim of the study: this study aims to determine physical and emotional discomfort experienced by patients undergoing cystoscopy.

Design: Descriptive research design was used for the purpose of study.

Settings: This study was conducted at Urology Department of Alexandria Main University Hospital, Alexandria, Egypt.

Subjects: The study comprised a convenience sample of 90 patients attending the pre-mentioned health setting and meeting the following inclusion criteria:

- From 20- 60 years old.
- Performing cystoscopy for the first time.

The exclusion criteria include:

- Current urinary tract infection
- Anatomic urethral abnormalities.
- Presence of current pain in the pelvic region.

Tools: based on an extensive review of related literature; three tools were used for the purpose of data collection.

Tool I: Biosociodemographic and Physical Assessment. This tool was developed by the researchers after reviewing related literature^(6, 11) to obtain baseline data. It consisted of two parts as follows:

Part I: Patient's Sociodemographic Characteristics: as age, sex, educational level, marital status, occupation, and residence area.

Part II: Patients Clinical Data: as medical diagnosis, indications, duration of the cystoscopy procedure.

Tool II: Physical discomfort structured questioner. This part developed by the researchers based on review of literature^(2, 4, and 22) completed during the day after procedure include:

Part I: Symptoms of urinary physical discomfort: as light- headache/dizziness, nausea, feeling hot/excessive sweating, symptoms of urine leakage, symptoms of urine retention, symptoms of urgency, symptoms of urinary frequency, and other symptoms of urinary discomfort related cystoscopy insertion.

Part II: Numeric Pain Rating Scale: It is patient self-reporting of pain with the following rating system: (0) no pain, (1-3) mild pain, (4-6) moderate pain, (7-10) severe pain^(23, 24, 25).

Tool III: State Trait Anxiety Inventory (STAI). STAI was developed in 1970 by Spielberger and colleagues^(26, 27). State anxiety scale measures how a person feels in a certain situation at a certain period of time. STAI (range 20-80) measures the transitional emotional status evoked by a stressful situation, such as a medical procedure or surgery. The STAI consists of 20 statements and subjects are asked to indicate how they felt 'at the moment' using a Likert 4- point scale ranging from 'not at all' to 'very much so'. Total scores obtained from the STAI range from 20 to 80. The anxiety level is evaluated from the total score obtained from the STAI. A score between 1 and 20 is deemed to be not anxious; 21 to 40 as mild anxiety, 41 to 60 as moderate anxiety, and 61 and higher as severe anxiety STAI measures anxiety as a mental state.

Method

1. Written approval:

Permission to carry out the study was obtained from the head of the above mentioned sitting after complete explanation of the study aim.

2. Development of the study tools:

- Tool I (Biosociodemographic and physical assessment) was developed by the researchers based on the recent relevant literature review^(6, 11).
- Tool II (Physical discomfort structured questioner) was developed by the researchers based on the recent relevant literature review and translated into Arabic by the researcher to assess items of urinary physical discomfort and pain experience by patient day after cystoscopy.
- Tool III (State Trait Anxiety Inventory (STAI) was developed by Spielberger and colleagues^(25, 26) and translated into Arabic by the researchers.

3. Validity testing:

All tools were submitted to five experts in the field of medical surgical nursing for content validity and the necessary modifications were carried out accordingly.

4. Reliability testing:

Internal consistency was used in ascertaining reliability of tool ($r = 0.792$) using Cronbach Alpha Coefficient Test.

5. Pilot Study:

A pilot study was conducted before the actual study was done on seven patients to test the feasibility and applicability of different items of the tools to establish the most practical and comprehensive way of obtaining necessary data.

6. Data collection: After securing the administrative approval, the data collection was started, and continued from a period of 5 months from November 2018 to March 2019.

7. Ethical considerations:

Permission to conduct our study was obtained from every patient after explanation of the aim of the study. Privacy and anonymity was maintained for all participants. Confidentiality of the collected data assured. Participation in the research was voluntary. Right to withdraw from the study confirmed.

8. Data analysis:

SPSS version 20.0 was used to analyze the data. Paired t test was conducted to test for any significant difference between patients using STAI scores for each patient. The statistical significance level was 0.05 for this study.

3. RESULTS

Table (1) shows that more than two third of the studied patients were between 50-60 years, illiterate, married, female patients, approximately half of the patients were act in manual work. (27.8%) diagnosed with enlarged prostate and (37.8%) performing cystoscopy for both diagnostic and therapeutic indications. (48.9%) of them performing the procedure in 30 minutes to less than one hour.

Table (2) presents distribution of patient's undergoing cystoscopy according to pain severity post cystoscopy, equal percentage (37.8%) of the patients from total number report mild and moderate pain after cystoscopy procedure.

Table (3) in relation to physical discomfort following cystoscopy the present study revealed that, majority of the patients (93.3%) suffer from light headache and dizziness. More than half of the patients (61.1%) report feeling of urge to urinate. The same table also revealed that; all patients (100%) report pain during urination after cystoscopy. As for physical discomfort total score the results showed that; (66.7%) of the studied patients report moderate level of physical discomfort.

Table (4) explains the distribution of patient's undergoing cystoscopy according to their total score of emotional discomfort experienced by the patients following the procedure. Nearly half of the studied patients (44.5%) experience high level of emotional discomfort.

Table (5) illustrates relation between bio-sociodemographic characteristics of the studied patients in relation to reported physical discomfort. The table shows statistically significant difference between age of the patients, duration of the procedure and patient's physical discomfort ($p=0.000$). As regards sex of the patients the results shows statistically differences between gender of the patients and reporting of physical discomfort.

Table (6) depicts relation between psychological discomfort of the studied patients and their bio-sociodemographic characteristics. There is a statistically significant differences between age, sex, diagnosis and duration of the procedure in relation to total score of emotional discomfort reported after cystoscopy ($p=0.000$).

Table (7) portrait relation between physical discomforts total score level and emotional discomfort total score level score level. The results revealed statistically significant deference between physical and emotional discomfort represented by ($r=0.807$ and $p=0.000$).

4. DISCUSSION

Preparing patients physically and emotionally for cystoscopy consider as important nursing role in cystoscopic unit, in addition to its vital role during and after procedure and helping the patients to overcome physical and emotional discomfort associated with such examination procedure⁽²⁸⁻³⁰⁾. The purpose of this study aims to evaluate physical and emotional discomfort experienced by patients undergoing cystoscopy.

The findings of the present study revealed statistical significant difference between age and sex of the patients in relation to reporting of physical discomfort following cystoscopy. The underlying theory is that; cystoscopy is an invasive

procedure which can be associated with pain and discomfort. Both rigid and flexible instruments can easily pass the short female urethra without much discomfort. While, anatomical structure of the male urethra put the male patients under stress of reporting much pain, The results are not in accordance with Ozdemir A et al (2014)⁽³¹⁾ who found that there is no correlation between patients' age and physical discomfort. That can be explained by younger age tend to express more bothersome physical discomfort. Younger patients likely have fewer experiences of pain than older patients and may have lower pain tolerance or different expectations of pain and attempt to grasp attention of the family. Another explanation is biological, whereby older patients may have decreased sensitivity to pain due to potential dysregulation of the hypothalamic-pituitary-axis and changes in autonomic function, age-related changes in nerve conduction, as well as an increased prevalence of comorbid diseases that may occur with advancing age and interfere with pain sensorium.

In the present study, the result revealed the statistically significant deference between physical discomfort score level and emotional discomfort score level of the studied patient's. These findings are in agreement with Kesari et al (2003)⁽¹⁸⁾ who examine the effects of viewing cystoscopy and detailed explanation on pain and anxiety level among patients undergoing cystoscopy. Their results found that, cystoscopy provoke anxiety in patients and sometimes should be requested to be performed under general anesthesia. Prior to the procedure, anxiety may preclude the comfortableness of the patients and decrease the overall tolerability.

Concerning assessment of pain level after cystoscopy the present study stated that one third of the patients from total number report mild to moderate pain after cystoscopy procedure. This finding is supported by Biardeau et al (2017)⁽⁶⁾ who state that patients undergoing cystoscopy more commonly reported physical discomfort than emotional discomfort related to this procedure, and the most commonly reported cause of physical discomfort was pain. Patients who underwent their first experience of cystoscopy may experience high level of anxiety which directly affect physical ability of the patients to cope with such experience. In the some line, Greenstein et al (2014)⁽³²⁾ found that the pain levels reported after the first-time cystoscopy was significantly higher than the pain levels described for the repeat ones regardless of gender.

Nearly half of the patients in the present study experience high level of emotional discomfort. This is in agreement with Shekari and Saleh (2016)⁽³³⁾ who explain that, anxiety is one of the common problems and issues in the patients selected for surgery or invasive diagnostic and therapeutic procedure.

Cystoscopy is one of the most important and commonly used techniques for diagnosing and treating lower urinary tract diseases⁽³⁴⁾. Nurses at proficient and expert levels should be able to take an evidence-based approach to their nursing practice, act as consultants and mentors, and participate in research projects in a wider environment than just one unit or hospital. They should meet standards at a national level concerning the care of certain type of patients⁽³⁵⁾. The current study found that physical and emotional discomfort experienced by the patients undergoing cystoscopy can be decreased through complete patients assessment, planning and implementation of nursing intervention for those patients and enforce complete explanation and emotional support to overcome these symptoms of discomfort.

5. CONCLUSION

This study concluded that; cystoscopy is an invasive procedure in which patients experience mild to moderate pain and physical discomfort with high level of emotional discomfort. Pain, headache and dizziness, urgency and dysuria were the most commonly reported component of physical discomfort reported by the patients after cystoscopy (93.3, 61.1, 100%) respectively, while anxiety (27.7%) was the most commonly reported component of emotional discomfort.

6. RECOMMENDATIONS

The main recommendation of the study is that; the detailed explanation to patients who underwent cystoscopy is important to minimize physical and emotional discomfort associated with the procedure. In addition to investigate factors that could potentially influence patients physical and emotional discomfort and find potential ways of improving general tolerance during cystoscopy procedure.

Table (1): Frequency distribution of patient's undergoing cystoscopy according to their bio-sociodemographic characteristics.

Bio- sociodemographic characteristics	Studied patients (N= 90)	
	No	%
Age (years)		
20 –9	5	5.3
30 –9	9	10.0
40 –9	12	12.6
50-65	64	71.1
X ± SD	53.86± 10.381	
Sex		
Male	32	35.6
Female	58	64.4
Level of education		
Illiterate	40	44.4
Read& write	34	37.8
Primary +Preparatory	11	12.2
Secondary	0	0.0
Higher education	5	5.6
Marital status		
Single	6	6.7
Married	58	64.4
Divorced	14	15.6
Widow	12	13.3
Occupation		
Not working	5	5.6
Businesses	0	0.0
Clerical work	18	20.0
Manual work	46	51.1
Retired	12	13.3
House wife	9	10.0
Diagnosis		
Bladder tumor	15	16.7
Enlarged prostate	25	27.8
Hematuria	18	20.0
Urolithiasis	21	23.3
Urethral stricture	11	12.2
Type of cystoscopy		
Diagnostic	26	28.9
Therapeutic	30	33.3
Both	34	37.8
Duration of the procedure		
Less than 30 minutes	26	28.9
30 minutes to less than one hour	44	48.9
More than one hour	20	22.2

Table (2): Frequency distribution of patient's undergoing cystoscopy according to pain severity.

Pain severity	Studied patients (N= 90)	
	No	%
No pain	0	0.0
Mild pain	34	37.8
Moderate pain	34	37.8
Severe pain	9	10.0
Worst pain	13	14.4
Total	90	100

Table(3): Frequency distribution of patient's undergoing cystoscopy according to physical discomfort post cystoscopy.

Physical discomfort	Studied patients (N= 90)	
	No	%
Light- headache/dizziness		
• No	6	6.7
• Yes	84	93.3
Nausea		
• No	64	71.1
• Yes	26	28.9
Feeling hot/excessive sweating		
• No	61	67.8
• Yes	29	32.2
Symptoms of urine leakage		
• No	70	77.8
• Yes	20	22.2
Symptoms of urine retention		
• No	69	76.7
• Yes	21	23.3
Urgency		
• No	35	38.9
• Yes	55	61.1
Frequency		
• No	74	82.2
• Yes	16	17.8
Dysuria		
• No	0	0.0
• Yes	90	100
Physical discomfort total score		
• Mild	20	22.2
• Moderate	60	66.7
• Severe	10	11.1

Table (4): Frequency distribution of patient's undergoing cystoscopy according to emotional discomfort post cystoscopy.

Emotional discomfort	Studied patients (N= 90)	
	No	%
Low emotional discomfort	20	22.2
Moderate emotional discomfort	30	33.3
High emotional discomfort	40	44.5
Total	90	100

Table (5): The relation between the studied patient's physical discomfort and their bio-sociodemographic data:

Bio-Sociodemographic data	Patient's physical discomfort						Test of significance
	Mild (N=20)		Moderate (N= 60)		Severe (N=10)		
	No	%	No	%	No	%	
Age							FET= 64.510 P = 0.000*
• 9.20	5	25.0	0	0.0	0	0.0	
• 9- 30	8	40.0	1	1.7	0	0.0	
• 9- 40	7	35.0	5	8.3	0	0.0	
• 50-60	0	0.0	54	90.0	10	100	
Sex							FET= 10.484 P = 0.005*
• Male	13	65.0	15	25.0	4	40.0	
• Female	7	35.0	45	75.0	6	60.0	
Diagnosis							FET= 9.979 P = 0.266
• Bladder tumor	4	20.0	6	10.0	5	50.0	
• Enlarged prostate	3	15.0	17	28.3	5	50.0	
• Hematuria	5	25.0	13	21.7	0	0.0	
• Urolithiasis	8	40.0	13	21.7	0	0.0	
• Urethral stricture	0	0.0	11	18.3	0	0.0	
Duration of the procedure							FET= 37.430 P = 0.000*
• Less than 30 minutes	16	80.0	6	10.0	4	40.0	
• 30 minutes to less than one hour	4	20.0	34	56.7	6	60.0	
• More than one hour	0	0.0	20	33.3	0	0.0	

Table (6): The relation between the studied patient's emotional discomfort and their bio-sociodemographic data:

Bio-Sociodemographic data	Patient's emotional discomfort						Test of significance
	Low (N=20)		Moderate (N= 30)		High (N=40)		
	No	%	No	%	No	%	
Age							FET= 62.546 P = 0.000*
• 9.20	5	25.0	0	0.0	0	0.0	
• 9- 30	8	40.0	0	0.0	1	2.5	
• 9- 40	7	35.0	1	3.3	4	10.0	
• 50-60	0	0.0	29	96.7	35	87.5	
Sex							FET= 16.118 P = 0.000*
• Male	13	65.0	3	10.0	16	40.0	
• Female	7	35.0	27	90.0	24	60.0	
Diagnosis							FET= 32.101 P = 0.000*
• Bladder tumor	4	20.0	6	20.0	5	12.5	
• Enlarged prostate	3	15.0	0	0.0	22	55.0	
• Hematuria	5	25.0	2	6.7	11	27.5	
• Urolithiasis	8	40.0	13	43.3	2	5.0	
• Urethral stricture	0	0.0	9	30.0	0	0.0	

Duration of the procedure							
• Less than 30 minutes	16	80.0	5	16.7	5	12.5	FET= 43.549 P = 0.000*
• 30 minutes to less than one hour	4	20.0	25	83.3	13	32.5	
• More than one hour	0	0.0	0	0.0	22	55.0	

Table (7): The relation between the studied patient's physical discomfort and emotional discomfort:

Physical discomfort	Patient's emotional discomfort						Test of significance
	Low (N=20)		Moderate (N= 30)		High (N=40)		
	No	%	No	%	No	%	
• Mild	20	100.0	0	0.0	0	2.5	FET= 85.00 P = 0.000*
• Moderate	0	0.0	30	100	30	75.0	
• Severe	0	0.0	0	0.0	10	25.0	
Statistical Test Pearson's r	Correlation Coefficient						Significance
Physical discomfort total score	0.807**						0.000*

FET: Fisher Exact test

** Statistically significant at 0.01

REFERENCES

- [1] Mirheydar H, Raheem O, Elkhoury F, Jabaji R, Palazzi K, Patel N, Du R, Maroney S, Sakamoto K. Modern advances in reducing anxiety and pain associated with cystoscopy: Systematic review. World J Transl Med 2015; 4(1): 38-43.
- [2] Bhomi K, Rizal S, Pradhan M, Rijal A, Bhattachan C. Pain during rigid cystoscopy: a prospective randomized controlled study comparing the benefit of cooled and room temperature lignocaine gel. Nepal Med Coll J 2011; 13(1): 55-57.
- [3] Ellis1 G, Pridgeon S, LambB, Awsare N, Osaghae S, Smith S, McNicholas T, Green J. Psychological distress in out-patients undergoing flexible cystoscopy for the investigation of bladder cancer. Journal of Clinical Urology 2014; 8(3) 196–201.
- [4] Nadeem M and Ather H. Effect of diclofenac suppository on pain control during flexible cystoscopy-A randomized controlled trial. Research 2016; 5:2834.
- [5] Samplaski MK, Jones JS. Two centuries of cystoscopy: the development of imaging, instrumentation and synergistic technologies. BJU Int 2009; 103: 154-158.
- [6] Biardeau X, Lam O, Ba V, Campeau L, Corcos J. Prospective evaluation of anxiety, pain, and embarrassment associated with cystoscopy and urodynamic testing in clinical practice. CUAJ 2017; 11(3-4): 104-110.
- [7] Agrawa V, Kumar Jha A, Palmo D, MohantyD. Post Procedure Effects of Diagnostic Rigid Cystoscopy. Journal of Clinical and Diagnostic Research 2018; 12(2): 8-11.
- [8] Casteleijn N, Vriesema J, Stomps S, Balen O, Corne E. The effect of office based flexible and rigid cystoscopy on pain experience in female patients. Investig Clin Urol 2017;58: 48-53.
- [9] Hussein N and Norazan M. Impact of Self-Watching Double J Stent Insertion on Pain Experience of Male Patients: A Randomized Control Study Using Visual Analog Scale. ISRN Urology 2013; 1-5.
- [10] Krajewski W · Kościelska-Kasprzak K · Rymaszewska J · Zdrojowy R. How different cystoscopy methods influence patient sexual satisfaction, anxiety, and depression levels: a randomized prospective trial. Qual Life Res 2017; 26:625–634.

International Journal of Novel Research in Healthcare and Nursing

 Vol. 6, Issue 3, pp: (619-629), Month: September - December 2019, Available at: www.noveltyjournals.com

- [11] Kuivalainen A. Pain and associated procedural anxiety in adults undergoing bone marrow aspiration and biopsy. Therapeutic efficacy and feasibility of various analgesics Academic dissertation. Helsinki 2015.
- [12] Arslan S, Özer N, Özyurt F. Effect of music on preoperative anxiety in men undergoing urogenital surgery. *Australian Journal of Advanced Nursing*; 26 (2): 46-54.
- [13] Yerlikaya G, Elenskaia K, Hanzal E, Laml T, Riss P, Umek W. Pain perception during ambulatory cystoscopy and urodynamics.1077
- [14] Pfeifer U, Schilling D. Non-Physician Endoscopy: How Far Can We Go? *Med J* 2016;32:13–20.
- [15] Amer W, Taha N, Zaton H. Nurses Knowledge and Practice Regarding Gastrointestinal Endoscopy and Suggested Nursing Guidelines. *Afro Egypt J Infect Endem Dis* 2015; 5(2): 115-130
- [16] Quallich S. An innovative nurse-led cystoscopy clinic in Denmark. *International Journal of urological Nursing* 2019; 13(1):39-43.
- [17] Chatterton K, Bugeja P, Challacombe B, Anderson P, Costello A. Nurses' experience establishing a nurse-led bladder cancer surveillance flexible cystoscopy service *Australian Journal of Advanced Nursing* 2018; 28 (4):53-59.
- [18] Kesari D, Kovisman V, Cytron S. Effects on pain and anxiety of patients viewing their cystoscopy in addition to a detailed explanation: A controlled study. *BJU* 2003; 92(7):751-2 .
- [19] Rosa G, Yolanda C, Raquel M. Anxiety in gastroscopies: Comparison of two nursing interventions in endoscopy without sedation. *Enfermeria Global* 2013; 32:41-50.
- [20] Goldfischer ER, Cromie WJ, Karrison TG, et al. Randomized, prospective, double-blind study of the effects on pain perception of lidocaine jelly vs. plain lubricant during outpatient rigid cystoscopy. *J Urol* 1997;157:90-4.[https://doi.org/10.1016/S0022-5347\(01\)65292-3](https://doi.org/10.1016/S0022-5347(01)65292-3)
- [21] Greenstein A, Bar-Yosef Y, Chen J, et al. Does information provided to men before a urodynamic study affect their expectation of pain? *BJU Int* 2005; 96:1307-9.
- [22] Suskind A, Clemens Q, Cameron A. Patient perceptions of physical and emotional discomfort related to urodynamic testing; a questionnaire-based study in men and women with and without neurologic conditions. *Urology*2015; 85(3): 547–551.
- [23] Williamson A. Pain: a review of three commonly used pain rating scales. *Journal of Clinical Nursing* 2005; 14: 798-804.
- [24] Karoly P and Braver S. The measurement of clinical pain intensity: A comparison of six methods. *Journal of pain* 1986; 27:117-126.
- [25] Breivik H, Borchgrevink P, Allen S, Hals B, Rosseland L, Romundstad L, Breivik E, Assessment of pain. *British Journal of Anaesthesia* 2008; 101 (1): 17–24.
- [26] Julian L. Measures of anxiety: State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Hospital Anxiety and Depression Scale-Anxiety (HADS-A). *Arthritis Care and Research J* 2011; 23(s11):467-472.
- [27] Balsamo M, Innamorati M, Romanelli R, Carlucci L. The State-Trait Anxiety Inventory: Shadows and Lights on its Construct Validity. *Journal of Psychopathology and Behavioral Assessment* 2013; 35(1):1-13.
- [28] Verschuur E, Kuipers E, Siersema P. Nurses working in GI and endoscopic practice: a review: *Gastrointestinal Endoscopy J* 2007; 65(3): 469-79.
- [29] Gidlow A, Laniado M, Ellis B. The nurse cystoscopist: a feasible option? *BJU International* 2000; 85: 651-54.
- [30] Role of the Licensed Practical Nurse (LPN) / Registered Practical Nurse (RPN) in Endoscopy. *Canadian society of gerontology nurse and associates* 2015; 1-9.

International Journal of Novel Research in Healthcare and Nursing

Vol. 6, Issue 3, pp: (619-629), Month: September - December 2019, Available at: www.noveltyjournals.com

- [31] Ozdemir A, Altinova S, Koyuncu H, Serefoglu E, Balbay M, Factors Predictive of Pain During Cystoscopy: A Prospective Study. *Journal of Clinical and Analytical Medicine* 2014; 5(3): 186-90.
- [32] A, Greenstein I, Senderovich S, Mabjeesh N. Is Diagnostic Cystoscopy Painful? Analysis of 1,320 Consecutive Procedures. *Int Braz J Urol* 2014; 40 (4): 533-8.
- [33] Shekari R, Salehi S. Review of the Impact of Nursing Care before Endoscopy on Anxiety and Stress and Depression and Pain of the Elderly Patients Visiting Esfahan's Al-Zahra Hospital in 2015. *International Journal of Medical Research & Health Sciences* 2016; 5(5S):164-72.
- [34] Choi K, Cho I, Ki Min S. Intraurethral Lidocaine Usage in Office-Based Rigid Cystoscopy on Pain Experience. *Urogenit Tract Infect J* 2017; 12(3):117-21.
- [35] Vuorinen R, Heino E, Meretoja R. Endoscopy nurse as a patient care coordinator: The expanded role of the competent nurse in the gastroenterology setting. *Journal of the Society of Gastroenterology Nurses and Associates* 2009; 32 (6): 410-13.