

# **Developing Instructional Guidelines for Patients Undergoing Ureteroscopic Lithotripsy**

**Thesis**

*Submitted for Partial Fulfillment of the Requirement of  
Master Degree  
Medical –Surgical Nursing  
(Critical Care Nursing)*

**By**

**Amina Farid Abdeldayem Badr**

*Demonstrator at Medical Surgical Nursing Department  
El - Hussein Institute, El - Azhar University*

**Faculty of Nursing  
Ain Shams University**

**2017**

# **Developing Instructional Guidelines for Patients Undergoing Ureteroscopic Lithotripsy**

## **Thesis**

*Submitted for Partial Fulfillment of the Requirement of  
Master Degree  
Medical –Surgical Nursing  
(Critical Care Nursing)*

## **Supervision**

**Dr. Soad Mahmoud Hegazy**

*Professor of Medical Surgical Nursing  
Faculty of Nursing  
Ain Shams University*

**Dr. Mohamed Mohamed Yassin**

*Assistant Professor of Urology  
Faculty of Medicine  
Ain Shams University*

**Dr. Basma Mohammed Khalil**

*Lecturer of Medical Surgical Nursing  
Faculty of Nursing – Ain Shams University*

**Faculty of Nursing  
Ain Shams University**

**2017**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

## Acknowledgment

*First and foremost I'm grateful to **ALLAH**, the most kind and merciful for helping me to achieve this work.*

*The success of any work depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this work, I feel always*

*I would like to express my deepest gratitude and sincere appreciation toward **Dr. Mohamed Mohamed Yassin** Assist. Prof. of Urology, Faculty of Medicine – Ain Shams University for his guidance, encouragement, supervision, understanding, constructive criticism and encouragement. Words can never express my hearty thanks.*

*I am so grateful to **Dr. Soad Mahmoud Hegazy**, Professor of Medical-Surgical Nursing, Ain Shams University, who devoted much of her time, effort, generous advice for the completion of this work. Words can never express my hearty thanks and indebtedness to her valuable advice experienced guidance and encouragement.*

*My deep hearty gratitude and thankfulness to **Dr. Basma Khalil**, Lecturer of Medical Surgical Nursing, Faculty of Nursing, Ain Shams University for her continued effort, support, sincere advice, suggestions and guidance during all phases of this work.*

*Many thanks are sincerely sent to my parents, all my family members, my husband and my friends for their tolerance and sustained normal support.*

*Last but not least I would like to express my deep thanks to all patients who participated in this research and to all persons who directly and indirectly helped me by giving their time, effort and encouragement to the fulfillment of this work.*

*Amina Farid Abdeldayembadre*



I would like to dedicate this thesis to my

*Father & Mother, my Brother, Sisters, My*

*Friends, and my Colleagues*

To them I will never find adequate words to  
express my gratitude.

*Also my Beloved husband*

Especially for dealing so patiently, tactfully during  
this work



# *List of Contents*

Title	Page No.
List of Tables .....	7
List of Figures .....	9
List of Abbreviations.....	11
List of Appendices .....	vi
Abstract.....	13
Introduction .....	1
Aim of the Work.....	5
Review of Literature .....	6
Subjects and Methods.....	50
Results.....	60
Discussion.....	80
Conclusion .....	88
Recommendations.....	89
Summary .....	90
References .....	97
Appendices	
Arabic Summary	

## *List of Tables*

Table No.	Title	Page No.
<b>Tables of Results</b>		
<b>Table (1):</b>	Socio-demographic characteristics of the studied patients (n= 90). .....	61
<b>Table (2):</b>	Percentage distribution of the studied patients according to their complains (n= 90).....	63
<b>Table (3):</b>	Distribution of studied patients as regards their physical needs pre / post ureteroscopic lithotripsy (n=90).....	64
<b>Table (4):</b>	Distribution of the studied patients as regards their pain characteristics (n=90) .....	65
<b>Table (5):</b>	Distribution of the studied patients as regards their psychological needs pre / post ureteroscopic lithotripsy (n=90) .....	67
<b>Table (6):</b>	Distribution of studied patients as regards their spiritual needs pre / post ureteroscopic lithotripsy (n=90). .....	70
<b>Table (7):</b>	Distribution of studied patients as regards their educational needs pre / post ureteroscopic lithotripsy (n=90) .....	71
<b>Table (8):</b>	Relation between studied patients` age as regards their needs pre / post ureteroscopic lithotripsy (n=90).....	73
<b>Table (9):</b>	Relation between studied patients` gender as regards their needs pre / post ureteroscopic lithotripsy (n=90). .....	74
<b>Table (10):</b>	Relation between studied patients` income as regards their needs pre / post ureteroscopic lithotripsy (n=90) .....	75
<b>Table (11):</b>	Relation between studied patients` educational level as regards their needs pre / post ureteroscopic lithotripsy (n=90) .....	76

## *List of Tables (cont...)*

Table No.	Title	Page No.
<b>Table (12):</b>	Relation between studied patients` marital status as regards their needs pre / post ureteroscopic lithotripsy (n=90) .....	77
<b>Table (13):</b>	Relation between studied patients` job as regards their needs pre / post ureteroscopic lithotripsy (n=90) .....	78
<b>Table (14):</b>	Relation between studied patients` residence as regards their needs pre / post ureteroscopic lithotripsy (n=90) .....	79
 <b>Tables of Appendices</b>		
<b>Table (1):</b>	Shows agreement of jury group upon needs assessment tool format for patients undergoing ureteroscopic lithotripsy (No. of jury= 7) .....	127
<b>Table (2):</b>	Total Alpha cronbach reliability analysis of used tool in detection needs of patients undergoing ureteroscopic lithotripsy. ....	128
<b>Table (3):</b>	Alpha cronbach reliability analysis for the needs assessment dimensions .....	128



## *List of Figures*

Fig. No.	Title	Page No.
<b>Tables of Review of Literature</b>		
<b>Fig. (1):</b>	Anatomy of urinary system .....	6
<b>Fig. (2):</b>	Histology of ureters .....	8
<b>Fig. (3):</b>	Physiology of urinary system .....	9
<b>Fig. (4):</b>	Types of kidney stones .....	11
<b>Fig. (5):</b>	Symptoms of ureter stones .....	12
<b>Fig. (6):</b>	X-ray KUB .....	13
<b>Fig. (7):</b>	Ultrasonography .....	13
<b>Fig. (8):</b>	Intravenous Pyelography .....	14
<b>Fig. (9):</b>	Pharmacological treatment of ureter stones .....	16
<b>Fig. (10):</b>	Nutritional therapy of ureter stones .....	18
<b>Fig. (11):</b>	ESWL therapy of ureter stones .....	20
<b>Fig. (12):</b>	Percutaneous nephrostomy .....	21
<b>Fig. (13):</b>	Electrohydraulic lithotripsy therapy of ureter stones .....	22
<b>Fig. (14):</b>	Electrohydraulic lithotripsy therapy of ureter stones .....	23
<b>Fig. (15):</b>	Ureteroscopy .....	26
<b>Fig. (16):</b>	Ureteroscope of ureter stones.....	27
<b>Fig. (17):</b>	Ureteral stent .....	30
<b>Fig. (18):</b>	Ureteroscope of ureter stones.....	32
<b>Fig. (19):</b>	Abraham Maslow's Hierarchy of Needs.....	34

## *List of Figures (cont...)*

Fig. No.	Title	Page No.
<b>Tables of Results</b>		
<b>Fig. (1):</b>	Gender distribution among studied patients.....	62
<b>Fig. (2):</b>	Educational level among studied patients .....	62
<b>Fig. (3):</b>	Distribution of the studied patients as regards their pain characteristics (mean $\pm$ SD).....	66
<b>Fig. (4):</b>	Anxiety level pre / post ureteroscopic lithotripsy.....	69
<b>Fig. (5):</b>	Distribution of total patients' needs pre ureteroscopic lithotripsy among studied patients.....	72
<b>Fig. (6):</b>	Distribution of total patients' needs post ureteroscopic lithotripsy among studied patients. ....	72

## *List of Abbreviations*

<b>Abb.</b>	<b>Full term</b>
<b><i>ADL</i></b> .....	<i>Activities of Daily Living</i>
<b><i>ANA</i></b> .....	<i>American Nurses Association</i>
<b><i>CBC</i></b> .....	<i>Complete Blood Count</i>
<b><i>CTZ</i></b> .....	<i>Chemoreceptor Trigger Zone</i>
<b><i>DH</i></b> .....	<i>Department of Health</i>
<b><i>DIG</i></b> .....	<i>Developing Instructiol Guidelines</i>
<b><i>ESWL</i></b> .....	<i>Extracorporial Shock Wave Lithotripsy</i>
<b><i>HARS</i></b> .....	<i>HamiltonAnxiety Rating Scale</i>
<b><i>IVP</i></b> .....	<i>Intravenous Pyelography</i>
<b><i>KU</i></b> .....	<i>Kidney Ultrasonography</i>
<b><i>KUB</i></b> .....	<i>Kidney Ureter Bladder</i>
<b><i>NPS</i></b> .....	<i>Numerical Pain Scale</i>
<b><i>NSAIDS</i></b> .....	<i>Non Steroidal Anti Inflammatory Drugs</i>
<b><i>PACU</i></b> .....	<i>Post Anathietic Care Unit</i>
<b><i>PNA</i></b> .....	<i>Patient Need Assessment</i>
<b><i>PNCL</i></b> .....	<i>PercutaneousNephrolithotomy</i>
<b><i>QoL</i></b> .....	<i>Quality of Life</i>
<b><i>UI</i></b> .....	<i>Urinary Incontinance</i>
<b><i>ULP</i></b> .....	<i>Ureterosopic Lithotripsy Prosedure</i>
<b><i>UTI</i></b> .....	<i>Uterine Tract Infection</i>
<b><i>WHO</i></b> .....	<i>World Health Organization</i>

## List of Appendices

Title	Page No.
Appendix (I) .....	109
Appendix (II).....	119
Appendix (III) .....	125
Appendix (IV).....	127

## Abstract

**Aim:** This study aimed to develop instructional guidelines for patients undergoing ureteroscopic lithotripsy. **Methods:** A descriptive explorative design was utilized for the conduction of this study. Which was conducted in Urosurgery Department and Urology Outpatients' Clinics in El-Demerdash Hospital affiliated to Ain Shams University. **Sample:** A purposive sample of 90 adult patients from both genders undergoing Ureteroscopic lithotripsy. **Tools:** **I-** A structured interview questionnaire form which composed of: Patients' sociodemographic characteristics and patient's needs assessment sheet. **II-** Patients' medical records and **III-** Psychometric assessment which included (Hamilton's anxiety rating scale and Numerical pain scale). **Results:** The mean age of the study sample was  $39.5 \pm 5.7$ . There was statistical significant difference between patients' needs before and after ureteroscopic lithotripsy procedure. **Conclusion:** The studied patients had physical, psychological, social, spiritual and educational needs before Ureteroscopic lithotripsy procedure. The highest needs were physical followed by educational, spiritual, psychological and then later social. There was a statistical significance relation between patients' needs and their characteristics. **Recommendations:** Further research studies are needed to focus on the assessment of the quality of life of such group of patients.

---

**Keywords:** Ureteroscopic Lithotripsy, patients needs assessment

## INTRODUCTION

Ureteric stones represent the most common problem in daily emergency department practice. In the last 20 years, options for the management of this problem have changed radically (*Hollingsworth et al., 2012*). Various factors such as size of calculi, severity of symptoms, degree of obstruction, kidney function, location of stone and presence or absence of associated infection influence the choice of one type of intervention over the others (*Dellabella et al., 2013*).

Ureteric stones prevalence is relatively high, occurring in approximately 12% of men and 7% of women. The risk is increased with a past history of ureteric stone or with positive family history. Most patients present between 30 and 60 years of age, with peak incidence between 35-45 years old. Initial stones presentation occurring past 50 years of age is uncommon (*Tamm et al., 2014*).

Ureteroscopic lithotripsy manipulation of a stone is a commonly applied method of stone removal. The success rate of ureteroscopy is over 90% for the majority of stones that are treated this way. Successful stone clearance depends on size and location of stone in kidney or ureter. A small endoscope which may be rigid, semi rigid or flexible is passed into the bladder and up to the ureter to directly visualize the stone (*Moore et al., 2014*).

Stones smaller than 5 mm in diameter generally are retrieved using a stone basket, A surgeon can take exhaustive lithotripsy to allow for residual stones to pass spontaneously. In large studies comparing this approach has been associated with higher stone-free rates (up to 100%), lower rates of subsequent unplanned emergency department visits and of re-hospitalization (*Tasian et al., 2016*).

Ureteroscope is passed through natural body orifices and involve no skin incisions. It is an outpatients` procedure. Certain patients` groups who cannot be treated with percutaneous nephrolithotomy (PCNL) such as patients on blood thinners, pregnant women, morbidly obese and airline pilots/astronauts) can be treated safely and effectively by ureteroscopy. Post-surgery patient will be taken to the recovery room. Patient may be discharged from the recovery room to home once pain is controlled and able to urinate (*Kupeli et al., 2012 and Vincent & Bird, 2015*).

Information is a key factor for optimal management of post-procedural symptoms. Patients undergoing ureteroscopic lithotripsy needs to receive consistent information and effective discharge instructions to be prepared for transition of care from hospital to home. An effective practical discharge advice will increase patients` confidence in managing their care at home, improve health status and make them feel safe and comfortable. It is vital to provide patients with certain guidelines and