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ABSTRACT...Objectives: (1) To assess the theoretical and practical knowledge of young doctors about urethral catheterization. (2) To evaluate the experience and level of confidence of young doctors regarding the urethral catheterization in various tertiary care centers of Rawalpindi and Islamabad. **Period:** Sep 2009 to Feb 2010. **Setting:** Tertiary Care Centre, Fauji Foundation Hospital, Rawalpindi. **Subjects and methods:** A questionnaire was distributed among 400 young doctors working as interns in various tertiary care teaching hospitals of Rawalpindi and Islamabad. We obtained the information about observation, assistance, performance and knowledge of young doctors about urethral catheterization. **Results:** Questionnaire was distributed to about 400 young doctors working as interns in different teaching hospitals of Rawalpindi and Islamabad. Among the 400 doctors, 20 (5%) doctors never observed the male urethral catheterization and 35 (8.75%) doctors never observed female urethral catheterization. While among these 400 doctors 159 (38.75%) doctors never assisted male urethral catheterization and 175 (43.75%) doctors never assisted female urethral catheterization. Moreover 205 (51.25%) doctors never performed the male urethral catheterization and 185 (46.25%) doctors never performed female urethral catheterization. **Conclusions:** Training of young doctors about UC is not adequate. There is a need to train the young interns properly on this aspect. A senior resident or registrar of department should demonstrate the procedure in front of young interns before they are allowed to practice and first few catheterizations should be supervised by senior residents. Other alternate is the use of manikens for training of house officers.

Key words: Urethral Catheterization, Foley's Catheter

INTRODUCTION

Urethral Catheterization (UC) though, one of the most common procedure performed in emergency department, is not without complications. It is quite surprising that patients rate the UC as the fourth most painful procedure performed in emergency department¹.

UC is the most frequent retrograde manipulation on urinary tract and is also a common procedure for both hospital and community patients². About 15-20% of patients are catheterized during their stay in hospital³. The common indication for catheterization are relieve of acute urinary retention, preoperative catheterization before lower midline laparotomy, to measure the urine output in severely ill patients, to collect the urine samples and to assess the residual urine for Urodynamic evaluation. UC can also cause urinary tract infections, the most common cause of nosocomial urinary tract infection.

UC is a simple procedure but it is associated with significant morbidity and if it is not done correctly it can lead to some dangerous consequences⁴. Though medical students are taught about the skills for UC before they pass their final examination but very few fresh medical graduates receive practical instructions in this regard, despite their internship in medical and surgical units.

Surprisingly, UC is still commonly done by paramedical staff even in tertiary care hospitals. We receive frequent consultation requests in our department on failed UC and complications of UC caused by paramedical staff.

This has raised a question whether young doctors receive adequate training on UC or not.

There is no published data on the knowledge and adequacy of training of doctors about UC in our setup. So the aims of the study were to evaluate the knowledge,

experience and level of confidence of young doctors about UC.

SUBJECTS AND METHODS

This study was carried out in the Department of Urology & General Surgery of a tertiary care centre, Fauji Foundation Hospital Rawalpindi between Sep 2009 to Feb 2010. A questionnaire was distributed among 400 house officers who were working as interns in various teaching hospitals of Rawalpindi and Islamabad and were about to complete their one year training. Involvement in this study was voluntary and didn't constitute part of the summative assessment. Information obtained included their observation, assistance, performance and knowledge about UC.

RESULTS

The questionnaire was given to 400 fresh house officers working in different teaching hospitals of Rawalpindi and Islamabad. The male to female ratio was 1:1 with ages ranging from 22 to 28 years.

Among 400 doctors, 20 (5%) doctors said that they never observed the male UC, 210 (52.5%) doctors said that they observed male UC for 1-3 times and 70 (17.5%) doctors observed this for more than 3 times. 35 (8.75%) doctors never observed the female UC, 195 (48.75%) doctors observed this for 1-3 times and only 80 (20%) doctors said that they observed female UC for more than 3times. Among 400 doctors 155 (38.75%) doctors said that they never assisted male UC, while 185 (46.25%) doctors assisted male UC for 1-3 times and only 60 (15%) doctors said that they assisted male UC for more than 3 times. In case of assistance of female UC, 175 (43.75%) doctors said that they never assisted the

female UC, 170 (42.5%) doctors said that they assisted female UC for 1-3 times and only 55 (13.75%) doctors assisted this for more than 3 times. 205 (51.25%) doctors denied that they never performed the male UC independently, while 167 (41.75%) doctors said that they performed male UC independently for 1-3 times and only 28 (6.22%) doctors performed this for more than 3 times. Among 400 doctors, 185 (46.25%) doctors never performed female UC independently, 180 (45%) doctors said that they performed female UC independently for 1-3 times and only 35 (8.75%) doctors said that they performed female UC independently for more than 3 times.

In questionnaire doctors were asked what would they do in each case of failed male UC, only 40 (10%) doctors said that in case of failed male UC, they would liberally use the Lidocaine jelly, while 110 (27.5%) doctors said that they would perform urethral dilatation and 55 (13.75%) doctors said that they would do suprapubic cystostomy directly after the first failed attempt of male UC and 195 (48.75%) had no response. In response to another question 160 (40%) doctors agreed that UC is a sterile procedure, 190 (47.5%) doctors said that it is not a sterile procedure and 50 (12.5%) doctors gave no response. When doctors were asked about the items required for UC. 345 (86.25%) doctors said that they would require gloves, Foley Catheter, lubricant and urine bag, 45 (11.25%) doctors said that they would additionally use the Povidone Iodine to paint the area. 165 (42.3%) doctors agreed that they would use Lidocaine jelly as a lubricant while rest of 175 (43.75%) doctors said that KY Jelly is sufficient as a lubricant. No doctor said that paper towels and Cunningham penile clamp (to clamp male penile urethra) are also required for

Table-I.

Total No.	Observe male catheterization	Observe female catheterization	Assisted male catheterization	Assisted female catheterization	Done male catheterization	Done female catheterization
400 doctors	380	365	345	225	205	215
%	95%	91.25%	43.75%	56.25%	49.75%	53.75%

UC.

DISCUSSION

It has been suggested that skills of UC of young house officers are inadequate. So it can be presumed that these doctors were not instructed properly during their education in medical college and most of students qualify with very little knowledge and almost no experience in performing catheterization. In present study while assessing their theoretical knowledge about UC, among 400 doctors only 160 (40%) doctors agreed that UC is a sterile procedure. Where Eziyi et al found that 5.5% doctors agreed that UC is not a sterile procedure. Only 45 (11.25%) doctors said that they will additionally use the pyodine for antiseptic preparation of skin. It is quite surprising that no doctor told us that they should also use paper towels to drape that area. Obviously it can result in much higher rates of nosocomial infections & requirements of antibiotics which can easily be prevented by simple modifications in teaching & training methods. Moreover, in these 390 doctors only 105 (26.25%) doctors said that they would use lidocaine Jelly as a lubricant because it also acted as anaesthetic agent to decrease the discomfort during catheterization⁸. It has been found that use of topical Lidocaine jelly reduces the pain associated with male UC in comparison with topical lubricants only.

In a study conducted by Eziyi et al⁷, 54.3% doctors said that lidocaine Jelly should be used and 40.2 % doctors said that K jelly is enough for UC and 5.5% had no response. In present study we surprised to know the deficiency in practical knowledge and experience of young doctors regarding UC. 20 (5%) doctors never observed the male UC. Among 400 doctors 60 (15%) doctors assisted male UC for more than 3 times, 185 (46.25%) doctors assisted it for 1-3 times, and 155 (38.75%) doctors never assisted the male UC. 28 (6.25%) doctors performed the male UC more than 3 times, 167 (41.75%) doctors performed it for 1-3 times, and 205 (51.25%) doctors never performed the male UC. This is comparable to the findings of carter et al⁵. Where 40.2% young doctors performed UC 1-2 times and 3.9% doctors performed UC greater than 5 times. We can compare it with another study done at Sheffield Medical School, where 31% doctors had never passed the

urethral catheter. Another point worth mentioning is most of the complications occur during the first six months of training⁶. In another question when doctors were asked about their practical experience that what they would do in case of failed male UC, only 40 (10%) doctors said that in case of failed male urethral catheterization, they would use the lidocaine jelly liberally, 110 (27.5%) doctors said that they would perform the urethral dilatation, 55 (13.75%) doctors said that they would do the Suprapubic cystostomy and 195 (48.75%) doctors gave no response. In this study we observe another trend that male doctors perform or assist the male UC only and female doctors assist or perform the female UC. Moreover when they are interviewed for the reason of this gender based response, both the female and male doctors considered that performing the UC in opposite sex is not their job. Probably this is due to the social circumstances but in this country where male gynecologists are practicing with comfort and female surgeons are performing surgery on male patient, it looks surprising that male or female doctors can not perform UC in opposite sex.

Final conclusion is UC through a simple procedure but lack of training causes devastating consequences. Training of young doctors about UC is not adequate. There is a need to train the young interns properly on this aspect. Training of young interns can be improved by showing the short videos to all final year medical students and young interns. A senior resident or registrar¹⁰ of department should demonstrate the procedure in front of young interns before they are allowed to practice and first few catheterizations should be supervised by senior residents. Few centers in the west are using cadaver labs to train the young doctors for invasive procedures before they are allowed to practice their skills in clinical practice¹¹. A more practical approach in teaching this procedure is a minimum of ten male and ten female UC under supervision can be made mandatory before completion of one year residency is suggested. This will also help to reduce the incidence of complications of the procedure like urethral injury, false passage of urethra, recurrent urinary tract infections, urethral stricture, bacteremia and urosepsis.

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QUESTIONNAIRE ON URETHRAL CATHETERIZATION

Name (Optional):

Gender:

Duration of House Job:

Specialty:

Institution (Optional):

Q.#. 1 Have you observed Urethral Catheterization in a male patient?

Never 1-3 times >3 times

Q.#. 2 Have you observed Urethral Catheterization in a female patient?

Never 1-3 times >3 times

Q.#. 3 Have you assisted urethral catheterization in a male patient?

Never 1-3 times >3 times

Q.#. 4 Have you assisted urethral catheterization in a female patient?

Never 1-3 times >3 times

Q.#. 5 Have you performed urethral catheterization independently in a male patient?

Never 1-3 times >3 times

Q.#. 6 Have you performed urethral catheterization independently in a female patient?

Never 1-3 times >3 times

Q.#. 7 Name the items required for performing urethral catheterization?

- | | |
|----|----|
| 1. | 5. |
| 2. | 6. |
| 3. | 7. |
| 4. | 8. |

Q. #.8 In case of failed urethral catheterization what option you will choose?

1. Push the catheter with more force into bladder
2. Suprapubic catheterization
3. Urethral dilatation
4. Generous use of Xylocaine gel

Q. #. 9 Which complications of urethral catheterization have you observed?

- 1.
- 2.
- 3.

Q. #. 10 Encircle which size of Foley catheter you will select to relieve retention in a

- | | | | |
|------------------|------|------|------|
| i. Male adult | 24Fr | 10Fr | 18Fr |
| ii. Female Adult | 20Fr | 16Fr | 6Fr |

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**“Hope is not a dream
but a way of
making dreams become reality.”**

(unknown)