Introduction
Urology accounts for a significant proportion of acute surgical admissions. The current undergraduate and postgraduate teaching curriculum does not place a large emphasis on urology teaching or placement which is concerning. With the use of questionnaires, our multi-centre study aims to observe junior doctor’s perceived confidence level in management of urological condition after the inclusion of a urology interactive tutorial in the postgraduate program.

Methods
Foundation and core trainee across four district general and teaching hospitals in the UK were invited to attend a urology tutorial. Prior to the tutorial, all participants were given a questionnaire to explore their previous urology teaching exposure and their confidence level in managing urological conditions. An interactive tutorial was conducted which covered emergency urological presentations and some ward based problems. A post-tutorial questionnaire was given with the intention to observe any improvement in confidence level.

Results
A total of 68 junior doctors participated. Only 4% (n=3) had received adequate urology teaching previously. Only 1 person felt confident to competently manage all urological problems while 34% (n=23) felt capable to manage most urological presentations. All participating junior doctors were keen on extra urology teaching, with 97% (n=66) wanted the teaching to focus on emergency urology conditions. 62% (n=42) felt this will help to improve patient care and aid their future training jobs. Positive feedbacks were received after the teaching, with 93% (n=63) finding it very
Discussion

This multi-centre study provided supporting evidence that junior doctors do not feel adequately prepared to manage urological conditions in the acute setting. We observed that junior doctor’s confidence level in managing such presentations can be improved with an inclusion of a teaching supplementation. We propose the inclusion of urology teaching in the foundation program teaching curricula.

Keywords: Urology, Tutorials

Introduction

In the current UK medical school curriculum, urology exposure is not compulsory. Urology placement is offered across less than half of the UK medical schools (Derbyshire, 2012). This problem is further exacerbated by the General Medical Council recommendations in “Tomorrow’s Doctor”, which provides the main framework of all UK medical school curricula. This report emphasis on various core medical and surgical specialties knowledge skills, that all undergraduate students must acquire by the end of the training; which does not include urology in the list (GMC, 2009).

All junior doctors will encounter a vast number of urological conditions in the ward, emergency, or general practice setting. On average, more than 20 per cent of all acute surgical admissions and 5-10 per cent of general practitioner consultations are urological presentations (Miah, 2015). This highlights the importance of imparting urology knowledge to junior doctors to ensure confidence in management of urology conditions to improve patient care.

Through our multi-centre study, we aim to evaluate the sufficiency of undergraduate teaching among current junior doctor cohort and the possibility of improving confidence level in management of urological conditions through implementing teaching session in the foundation training program.

Methods

This study involves the recruitment of Foundation and Core training doctors across 4 hospitals, who were invited to attend a urology tutorial. Prior to the teaching session, the participants were given a questionnaire which explored their exposure to urology in their undergraduate and postgraduate studies; as well as previous jobs. We enquired about their level of confidence in management of urological conditions and whether help was needed. We ascertained the topics that they felt were lacking their knowledge; categorized into emergency, cancer, or elective. Their motivations and barriers to pursuing additional urology knowledge were also explored.

Based on the learning needs highlighted in the initial questionnaire, an interactive tutorial was given by a urology specialty registrar (ST3 or above). The presentation focused on the management of urological conditions that are frequently exposed to in the accident and emergency department or an acute surgical on-call. Some practical skills such as catheterization and management of paraphimosis were covered in the session.

A post tutorial questionnaire was completed to evaluate the changes in their confidence level in both
emergency and ward settings. We explored their thoughts of whether the tutorial will help improve patient care and the usefulness of the tutorial. Our group has previously described the pilot for this model in our initial study (Lyttle, 2017).

Under local institutional regulations, this project did not require formal ethics approval as the focus was on quality improvement of educational programs. The institutions involved were Glan Clwyd Hospital, Mid Cheshire Hospitals NHS Foundation Trust, Royal Liverpool and Broadgreen University Hospitals Trust, Southport and Ormskirk Hospital NHS Trust.

Results

We obtained a total of 68 participants, 62% (n=42) were foundation year 1 doctors and 31% (n=21) were foundation year 2 doctors. 7% (n=5) core surgical trainee also participated. 80% (n=54) of the cohort had no previous urology job.

When exploring the undergraduate curriculum, 69% (n=47) felt that they did not gain adequate urology exposure. 49% (n=33) had no postgraduate education whilst 38% (n=26) felt that the previous postgraduate teaching received was insufficient or of poor quality. Only 4% (n=3) rated their postgraduate urology education satisfactory.

The trainees had to self-evaluate their confidence level in managing urological conditions, in both on-call and ward settings. Only 1 person felt fully confident to manage all urology problems to a competent level, at their current training grade. 16% (n=11) acknowledged that help would be needed and are not comfortable in managing urological problems on their own. Almost half of the cohort, 49% (n=33) felt the ability to manage some conditions whilst 34% (n=23) felt capable to manage most urological presentations.

The participants were then questioned if extra urology teaching would be beneficial to them and the topic, categorized based on emergency, cancer and elective, would be the most relevant to aid their learning. All the junior doctors agreed that extra teaching would be appreciated. 97% (n=66) would like teaching on emergency urology conditions; while 46% (n=31) and 34% (n=23) requested teaching in cancer and elective topics respectively. A free text box was included to allow the trainee to explore further topics and procedures that deemed important to their learning. The main topics highlighted were management of difficult catheterization; failure of trial without catheter (TWOC) and suprapubic catheters.

To gain an insight into junior doctor’s motivation and barriers to the procurement of supplementary urology knowledge, the participants were asked to tick as many relevant answers from a list of options provided. 62% (n=42) felt additional teaching would help improve patient care and 59% (n=40) were driven by personal development. 50% (n=34) and 62% (n=42) felt that it would be of an advantage to aid their current and future training jobs respectively. 29% (n=20) were motivated by their postgraduate examinations. When seeking out the barriers to attending extra urology training, almost half, 49% (n=33) claimed that the lack of time was the main issue. 29% (n=20) felt there was a lack in postgraduate deanery support while 12% (n=8) and 10% (n=7) felt the lack in urology and departmental support respectively. A quarter (n=17) said that there was a lack in study budget while 3% (n=1) had no interest in urology in general.

After the tutorial, all attenders were requested to complete a feedback form. 97% (n=66) reported an increased confidence in managing urology patients in the emergency setting, and 96% (n=65) felt more competent in handling urological conditions presenting on the ward. 66% (n=45) felt that the gain in
additional urology knowledge will help improve their patient care by a great deal; while 34% (n=23) felt it will improve to some extent.

To evaluate the usefulness of the teaching session, we received a positive response of 93% (n=63) who felt it was ‘very useful’ and the remaining 7% (n=5) felt it was ‘somewhat useful. No negative rating was received.

Discussion

As a junior doctor, the responsibility of attending to admissions in the emergency department is common and at least half of the surgical admissions are urological presenting complaints (Kelly, 1987).

Urology is not a compulsory rotation in the UK undergraduate curriculum. As surveyed among most of UK medical schools, only 37% of the medical schools included urology as part of the curriculum while there is no formal urology teaching provided in at least six medical schools (Shah, 2002). This downward trend in urology exposure across medical schools is also observed in United States (Slaughenhoupt, 2014).

In a survey done in 2010 amongst Foundation doctors across most Foundation deaneries in the UK showed that majority (90.7%) felt the urology teaching received during their undergraduate program was sub-optimal. The feedback was the lack of clinical skills exposure, theoretical teaching and structure to urology placement. 68.9% felt that more time should be allocated to urology teaching. The suggestion made by junior doctors in the survey to improve the current situation was the introduction of basic urological skill course into the undergraduate program (Malde, 2012).

According to the UK Foundation Program, the aim of a foundation deanery school is to build upon the undergraduate education to ensure professionalism and primacy of patient welfare needed for safe management of patients acute and chronic conditions. Deanery school should provide generic training to develop a variety of essential interpersonal and clinical skills that are essential in the management of acute and chronic medical conditions, irrespective of their specialty (The Foundation Programme Curriculum, 2016). Therefore, as postgraduate training schools, we felt the importance of including urology teaching in the foundation program to aid the nurturing of foundation doctors.

Our multi-centre study highlights the lack of confidence among Foundation doctors in management of urological conditions due to limited exposure in undergraduate and current postgraduate curricula. We have identified areas where Foundation doctors felt they needed help in and also barriers preventing them from obtaining additional urological knowledge. The majority claimed the lack of time and deanery support was an issue, we decided that the inclusion of a tutorial session into the deanery teaching scheme would be ideal. Our study has proven positive feedback from this action across four different district general and teaching hospitals. The post-teaching feedback was essential in identifying the improved confidence level of the junior doctors and also helped to identify members that may need an additional support on top of the tutorial. This helped to provide an outlet for junior doctors to voice their concerns in their training and as a deanery, we will be able to better support these juniors.

Therefore, we recognize the benefits of providing urological teaching sessions to junior doctors and would recommend implementing this program in more deaneries across the UK to better support our junior doctors in providing good care for our patients.

Conclusion
In conclusion, urological conditions are commonly encountered in the lives of a junior doctor, whether in the emergency, ward or general practice setting. The lack of urology teaching in most of the UK medical school curricula can have a knock-on effect in the confidence level of junior doctor managing urology patients and hence requiring more support to ensure patient safety. Positive results from our previous single centre pilot study (Lyttle, 2017) encouraged us to roll out this project into a multi-centre program. We also aim to use this data for ongoing audit activity. Based on our good feedback and response, we propose the implementation of urological teaching in the current deanery teaching curricula to help support our junior doctors.

**Take Home Messages**

**Notes On Contributors**

**Saqib Javed** is a second year registrar in Urology in West Sector Health Education North West, UK. Saqib has a strong interest in Clinical Research and Medical Education and attended the AMEE conference in Helsinki 2017 where he presented his project as a poster. Saqib led this multi-centre study.

**Lina Yow** is an enthusiastic Foundation year 2 doctor currently based in Urology at Glan Clwyd Hospital, North Wales. She has keen interest in Medical Education and participated in data collection and analysis during this study.

**Margaret Lyttle** is a consultant Urological Surgeon at Mid Cheshire NHS Foundation Trust. Margaret has a strong interest in Medical Education and attended the ESME course at AMEE conference in Barcelona 2016 where her study was presented as a poster.

**Rafal Turo** is a third year registrar in Urology in West Sector Health Education North West, UK. He has great interest in Research and Medical Education. He collected the data at the Royal Liverpool and Broadgreen University Hospitals NHS Trust where he is currently based.

**Mamoon Siraj** is a consultant Urological Surgeon with a sub-speciality interest in Stone disease. He is based at Urology at Mid Cheshire NHS Foundation Trust. He combines his clinical and training commitments with being a Clinical Supervisor for trainees.

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**Vaikuntam Srinivasan** is a consultant Urological Surgeon at Gland Clwyd Hospital with a sub-speciality interest in Pelvic Oncology. He is a pioneer in Laparoscopic Urological surgery in the UK. He has great interest in Medical education and is also Royal College of Edinburgh examiner for FRCS (Urol).

**Rono Mukherjee** is a consultant Urological Surgeon with a sub-speciality interest in Stone disease. He is clinical lead for Urology at Mid Cheshire NHS Foundation Trust, where this study was carried out. He combines his clinical and managerial commitments with being Assigned Educational Supervisor and a Clinical Supervisor for trainees.

**Asif Ansari** is Urology clinical fellow at Glan Clwyd Hospital. He has tremendous interest in medical education and participated in data collection during this project.
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Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.