

An Online NCHD Led Tutorial Program for the MRCPI Part 2 Clinical Examination in Paediatrics

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Abstract

This project aimed to help individuals preparing for the Membership of the Royal College of Physicians of Ireland Part 2 Clinical Exam in Paediatrics by delivering a non-consultant hospital doctor (NCHD) led online teaching program. NCHDs working in Children's Health Ireland at Temple Street were recruited to deliver tutorials. The program was delivered from the 5th October to the 3rd November 2020 and evaluated before and after via online surveys. Of the 69 participants recruited 41 (59%) completed the "Before" survey and 32 (46%) completed the "After" survey. The project started as a local hospital initiative within CHI at Temple Street however subsequently expanded to include 14 Irish hospitals and international attendance. Overall, the project was rated excellent by 78.1% of attendees and very good by 21.9% of attendees. Despite being an imperfect method of preparation for a clinical examination, survey responses suggested that the program helped prospective exam candidate's preparations.

Introduction

Due to the COVID-19 pandemic traditional learning methods including self-initiated opportunistic ward level case-based preparation and bedside clinical tutorials for the Paediatric Part 2 Clinical MRCPI (Membership of the Royal College of Paediatrics of Ireland) Exam have become challenging. Prior to the COVID-19 pandemic clinical tutorials for the MRCPI Part 2 Clinical Exam took place in Children's Health Ireland (CHI) at Temple Street with an informal structure delivered by both consultants and senior NCHDs (non-consultant hospital doctors). This project aimed to help candidates in their preparation by delivering an NCHD led online teaching program.

Methods

NCHDs working in CHI at Temple Street were recruited to deliver tutorials. Attendees were recruited and coordinated via Whatsapp®. The program was evaluated before and after via online surveys (SurveyMonkey®). The program was designed for delivery online due to the COVID-19 related public health measures. The Zoom® platform was used to deliver the tutorial program. No patients were examined or involved in the delivery of this teaching program. Tutorials were designed to be as interactive as possible and focused on history and examination. Topics chosen for tutorials included endocrinology, neurodevelopment, respiratory medicine, metabolic medicine, what to expect from the new exam format, neurology, nephrology, gastroenterology and cardiology.

Results

Of the 69 participants recruited to the coordinating WhatsApp group, n=41 people completed the “Before” survey and n=32 completed the “After” survey.

In the “Before” group, respondents attended from the following hospitals; CHI at Temple Street (37.1%), CHI at Crumlin (22%), Our Lady of Lourdes Hospital Drogheda (7.3%), Cork University Hospital (7.3%), Limerick University Hospital (4.9%), Waterford University Hospital (2.4%), Letterkenny University Hospital (2.4%), Midlands Regional Hospital Mullingar (2.4%), Galway University Hospital (2.4%), Mercy Hospital Cork (2.4%), Coombe Maternity Hospital (2.4%), National Maternity Hospital (2.4%) and the Rotunda (2.4%). One person attended while on maternity leave and one person attended from Saudi Arabia. Respondents had an average of 2.3 years clinical experience in paediatrics (Range: 3 months to 7 years). Regarding postgraduate training programs; 73.17% of respondents were enrolled in Basic Specialist Training, 2.4% were enrolled on the College of Physicians and Surgeons of Pakistan Postgraduate Scholarship Program, 2.4% were enrolled in the International Residency Training Program in Paediatrics and 2.4% were enrolled in the Faculty of Paediatrics General Division Scheme. Notably 19.5% of respondents stated they were not enrolled in a postgraduate training program. Of the n=27 individuals who stated that they are not currently preparing for the MRCPI Part 2 Clinical Examination; 66.7% stated that they planned to sit the MRCPI Part 2 Clinical exam at a later date, 22.2% stated they were attending to avail of opportunistic training, 14.8% stated that they had a lack of available paediatric training at their institution, 11.1% stated they were preparing for an examination other than the MRCPI Part 2 Clinical and 7.4% stated that they were attending to help them prepare for the MRCPI Part 2 written exam. Please see Table 1 for further results from the before survey.

In the “After” group, 77.4% of respondents rated the course as excellent and 22.6% rated the course as very good on a 5-point Likert scale. Respondents in this survey were employed in the following hospitals; CHI at Temple Street (38.7%), CHI at Crumlin (19.4%), Cork University Hospital (9.7%), Our Lady of Lourdes Hospital Drogheda (6.5%), Waterford University Hospital (3.2%), Limerick University Hospital (3.2%), Galway University Hospital (3.2%), Wexford General Hospital (3.2%), Mercy University Hospital (3.2%), Midlands Regional Hospital Mullingar (3.2%), National Maternity Hospital Holles St. (3.2%) and the Rotunda (3.2%).

Table 1. Survey Results							
Before Survey (n=41)							
	Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel prepared for the MRCPI Part 2 Clinical Examination	2.6%	7.7%	46.2%	7.7%	18.0%	18.0%	-
I understand the format of the MRCPI Part 2 Clinical Examination	9.8%	31.7%	39.0%	4.9%	7.3%	7.3%	-
The current COVID-19 global pandemic has impacted on my ability to prepare for the MRCPI Part 2 Clinical Examination	62.1%	34.5%	-	3.5%	-	-	-
After Survey (n=32)							
	Excellent	Very good	Good	Fair	Poor		
How would you rate the course?	78.13%	21.9%	-	-	-		
	Strongly Agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I feel prepared for the MRCPI Part 2 Clinical Examination	6.25%	25.0%	43.8%	12.5%	9.4%	3.1%	-
I understand the format of the MRCPI Part 2 Clinical Examination	28.1%	50%	15.6%	6.25%	-	-	-
The Endocrinology Tutorial helped my examination preparation (n=22/32)	40.9%	59.1%	-	-	-	-	-
The Neurodisability Tutorial helped my examination preparation (n=31/32)	54.8%	41.9%	3.2%	-	-	-	-
The Respiratory Tutorial helped my examination preparation (n=30/32)	50%	46.7%	3.3%	-	-	-	-
The Metabolic Tutorial helped my examination preparation (n=29/32)	34.5%	55.5%	6.9%	3.4%	-	-	-
The "What to expect from the new exam format" helped my examination preparation (n=28/32)	35.7%	57.1%	-	7.1%	-	-	-
The Neurology Tutorial helped my examination preparation (n=30/32)	43.3%	46.7%	6.7%	3.3%	-	-	-
The Nephrology Tutorial helped my examination preparation (n=28/32)	50%	46.4%	-	3.5%	-	-	-
The Gastroenterology Tutorial helped my examination preparation (n=29/32)	51.7%	41.4%	3.4%	3.4%	-	-	-
The Cardiology Tutorial helped my examination preparation (n=26/32)	38.5%	50%	3.8%	7.7%	-	-	-
I think that online tutorials are useful in preparation for the MRCPI Part 2 Clinical Examination	65.6%	31.3%	3.1%	-	-	-	-
The material presented had practical relevance	59.4%	13%	-	-	-	-	-
I feel that the topics covered in this Online Preparation Course adequately reflect topics covered by the MRCPI Part 2 Clinical Examination	53.2%	37.5%	-	9.4%	-	-	-
I think that an online tutorial program dedicated to preparing candidates for the MRCPI Part 2 Clinical Exam would be useful in the absence of a global pandemic	65.6%	34.4%	-	-	-	-	-

Respondents to this survey had an average of 2.13 years clinical experience (Range: 3 months to 4 years). Regarding training status: 83.9% of respondents were enrolled in Basic Specialist Training, 6.5% in the Faculty of Paediatrics General Division Scheme and 3.2% were enrolled in the International Residency Training Program. In this survey 9.7% of respondents stated they were not enrolled in a postgraduate training program. 18 respondents (58%) stated they were scheduled to sit the next sitting of the MRCPI Part 2 Clinical Exam in Paediatrics. Further information from the after group can be found in Table 1. All lectures delivered were rated on a 7-point Likert scale. When asked what additional topics could be included in a future tutorial program, suggestions included Rheumatology, Haematology, Growth and Development, Communication scenarios, Dermatology, Oncology, Allergy and Neonatology. When asked if there were any other educational tools/methods that could be used to deliver a structured teaching program in the current COVID-19 pandemic, individuals suggested; socially distanced small group tutorials, short quizzes, videos demonstrating clinical examination for complex patients, online bedside tutorials and history taking/communication type scenarios. When asked if any tutorial topics delivered by this online tutorial program were not necessary, 100% of respondents replied, "I think they were all necessary". When asked how tutorial presentations could have been improved upon, answers included "content directed towards potential exam questions" and "make sessions more interactive".

Discussion

This project started as a local NCHD-led initiative within CHI at Temple Street and, subsequently expanded to include 14 Irish hospitals and international attendance. This expansion took place via peer-to-peer recruitment into the organising WhatsApp® group due to demand from other sites. Tutorials were delivered by NCHDs in-training and while all reasonable measures were undertaken to ensure information disseminated was correct, it was highlighted to attendees that tutorials were designed by non-specialists. Since the inception of this tutorial program the project has completed four subsequent cycles. Feedback from sessions was also used to revise the scheduling of tutorials, to make them more amenable to NCHDs work schedules. Notably feedback regarding tutorials mostly highlighted technical issues rather than issues of content. Feedback received regarding content was directed only at the breath of coverage. Only positive feedback was received regarding the depth of coverage. The breadth of content delivered was somewhat limited by the specific expertise of senior paediatric trainees working in CHI at Temple Street recruited to give tutorials owing to localisation of certain paediatric sub-specialities across different CHI sites. Given the national audience recruited to the program due consideration will be given to expanding the range of sub-specialities addressed. Feedback following completion of these surveys was communicated to the RCPI (Royal College of Physicians of Ireland) examinations committee.

A significant proportion of candidates surveyed did not understand the format of the MRCPI Part 2 Clinical Examination. One possible reason for this was the change to the new MRCPI Part 2 Clinical format in November 2019. Attendees were preparing for the second delivery of this new format at the time of the program's delivery. This was a marked cause for query from NCHDs delivering tutorials who were largely unfamiliar with the new syllabus as, all except one, had sat the prior format.

To mitigate this all tutors were sent the up-to-date syllabus at the time of their commitment to delivering tutorials and a session entitled “What to expect from the new exam format” was added to the schedule. In the most recent cycle of the program the scope of the delivered sessions has broadened to include a question-and-answer session from RCPI. A likely reason for uncertainty regarding the format of the examination among attendees was the imposition of COVID-19 on the examination calendar. Increased stress among exam candidates due to necessitated format changes in preparing for medical postgraduate examinations during the COVID-19 pandemic has been well described in the literature^{1,2}. Difficulties in preparing and delivering clinical examinations due to the necessitated public health measures have been acknowledged by the Royal College of Physicians of Ireland³, the Royal College of Paediatrics and Child Health⁴, the Royal Australasian College of Physicians⁵, the American Board of Pediatrics⁶ and other governing bodies.

The use of alternative “creative avenues” for the delivery of postgraduate medical education in the post COVID-19 era have been advocated in the literature¹. This initiative aimed to compliment significant efforts⁷ already made to ameliorate the effects of COVID-19 on postgraduate medical education. Due to the success of and demand for this program due consideration will be given to continuing its delivery in the post-COVID-19 era.

The COVID-19 pandemic has changed the postgraduate training experience in many ways. The overnight move to online platforms such as Zoom, Webex and Microsoft Teams forced upon medical services has been a rapid period of transition for many individuals across all postgraduate disciplines⁸. While these key technologies have made the shift to online learning possible, students and educators still prefer in-person teaching methods to pandemic pedagogy⁹. We acknowledge that an online tutorial program is an imperfect method of preparation for a clinical exam¹ however it was the best tool at our disposal. The design of this program could potentially be replicated for training in other postgraduate disciplines. While there is likely bias in response given the working relationship between those attending and participating, survey responses obtained suggest that this program helped prospective examination candidate’s preparations. Interestingly 42% of individuals surveyed were not scheduled to sit the MRCPI Part 2 Clinical Exam in November. In this cohort 14.8% said that they lacked available paediatric training in their institution. Online learning activities remove barriers to participation that are particularly evident in groupwork activities¹⁰ and represent an educational means to include this cohort.

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