

Self-Perceived Skills of Pre Intern Doctors in Sri Lanka

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Abstract

Introduction

The transition from medical student to intern is a significant and challenging time in a doctor's training. It can be stressful for the young doctor and there can be varying expectations from employers and supervisors on their capabilities. There is a time gap between graduation and internship for medical graduates in Sri Lanka. Also, there was no proper orientation prior the internship. Thus, the Good Intern Programme was developed as a skills training programme for pre interns who are awaiting internship, and this was conducted in collaboration with Ministry of Health (MOH), Government Medical Officers' Association (GMOA), Society for Health Research and Innovation (SHRI). This study aimed to explore self-perceived competency of selected skills of pre-interns who were awaiting for internship.

Methods

Study population

Sri Lankan medical Faculties (University of Colombo, Peradeniya, Sri Jayewardenapura, Jaffna, Kelaniya, Ruhuna, Eastern University- Batticaloa, Rajarata University and General Sir John Kotelawala Defence University -KDU), and foreign universities produce approximately 1000 medical graduates per year. In 2020, all pre- interns who joined the Good Intern Programme, Sri Lanka were invited to participate in this questionnaire survey. Statistical analyses were performed using SPSS 23.0 software. Descriptive data were presented as proportions.

Results

Mean age was 27.6 (\pm SD 1.4). Majority of the pre-interns were females (66.5%).

Majority of pre-interns perceived that they were able to performs suturing, cannulation, catheterization, setting up an Intravenous (IV) drip, infusion pump setup, blood and blood products transfusion, venipuncture, venipuncture for blood culture, injections-Subcutaneous (SC)/Intramuscular (IM), Glasgow Coma Scale (GCS) monitoring, Cardiopulmonary resuscitation (CPR), arterial puncture for Arterial Blood Gases (ABG), wound dressing, suture removal, bandaging, glucometer use, nebulization, connecting to an ECG (electrocardiogram) monitor competently with or without supervision respectively.

Lack of competency perceived on the following skills. Nasogastric tube (NG) insertion, pleural tap, peritoneal tap, removal of an Intercostal tube, lumbar puncture, defibrillation, venous cut down, intubation, CVP (central venous catheter) line insertion, Intercostal (IC) tube insertion were rated by the majority of pre-interns as skills that could be performed competently with supervision or not able to perform the skill but has observed skill.

Conclusion

Although most of the skills were rated by majority of the pre-interns as skills that could be competently performed with or without supervision respectively, there were some skills which needed some improvement. This study suggests that Good Intern Programme in pre-intern period can help to prepare students for the intern role.

Background

Transition from medical student to an intern is defined as a pre-intern. It is very crucial and pre-interns face many challenges during this training period [1]. Some young trainee doctors find it stressful, and their capabilities need to match the different employer expectations as well as their supervisors' expectations [2–5]. Thus, for a smooth transition, it's necessary to align undergraduate training with early postgraduate training [6–13]. Most of the medical schools tried to help this smooth transition by implementing several measures such as introducing shadowing an intern for 2–4 weeks duration [14] or 'pre-internship' placements [15, 1].

"Sri Lanka has similar situation for medical graduates where there is a time gap between graduation and internship. Skills enhancement may not occur during this period because they do not have arrangements to conduct clinical practices routinely. Hands on practices are essential to develop the technical skills which are required for internship. As new interns begin to work usually patient care is affected because of their low skill levels and low levels of confidence. To address this perceived lack of skills before commencing internship remedial measures were taken in Sri Lanka. Good Intern Programme conducted for the first time in 2013 by the Government Medical Officers' Association (GMOA) with Ministry of health (MOH) addresses these problems; as part of this approach, it is important to allow pre-interns to practice their skills before starting internship." Good Intern Programme 2020 was a skills training programme for pre-interns who are awaiting internship, and this was conducted in collaboration with Ministry of Health (MOH), Government Medical Officers' Association (GMOA) and Society for Health Research and Innovation (SHRI). There is increasing interest in the value of pre-intern experiences, and anecdotally, the Sri Lankan model seems to work well, yet there has been surprisingly little documentation about the value of a full year's pre-internship. This study aimed to explore self-perceived competency of pre-interns' skills during their pre-intern year.

Methods

Study population

"Sri Lankan medical Faculties (University of Colombo, University of Peradeniya, University of Sri Jayewardenepura, University of Jaffna, University of Kelaniya, University of Ruhuna, Eastern University-Batticaloa, Rajarata University and KDU), and foreign universities produce approximately 1000 medical graduates per year. All Sri Lankan medical schools offer similar 6-year undergraduate programmes. The first 3 years are predominantly a mix of taught medical science and clinical principles, and the years 4 and 5 are focused on attachments through a variety of clinical attachments supplemented by lectures, tutorials and practical sessions. The main barrier exams are taken at the end of year 5 and following

successful completion, students become trainee interns attached to clinical teams – namely general medicine, general surgery, obstetrics and gynaecology, paediatrics. Assessment during the trainee intern year comprises mostly a mixture of observed consultations in real life settings and supervisor’s reports [16]. In 2020, all pre- interns in who joined the Good Intern Programme, Sri Lanka were invited to participate in this questionnaire survey. Questionnaires were distributed in the Good Intern Programme.”

Ethics approval

Ethical review was obtained from the Faculty of Medicine, University of Jayewardenapura.

Survey design

“The self-administered questionnaire contained 29 items. Questions for the survey were drawn from the skills identified in the Universities’ 5th year and trainee intern year student guidebooks. The survey was piloted and validated through a focus group of ten medical students from the University of Colombo. These respondents were asked to comment on content, clarity, consistency, appearance and the potential for bias in the questionnaire. Potential ambiguities identified were corrected prior to the distribution of the survey [16]. Participants were asked to rate their experience and perceived skill level using 4-point Likert scales of competency and performance as outlined in Table 1.2.”

Data analysis

Statistical analyses were performed using SPSS 23.0 software. Descriptive data were presented as proportions.

Results

Mean age was 27.6 (\pm SD 1.4). As shown in Table 1.1, majority of the pre-interns were females (66.5%).

Table 1.1
Frequency distribution of the
study population by gender

Gender	No.	%
	(n=641)	
Female	426	66.5
Male	215	33.5

Frequency distribution of the study population by their level of competency in selected skills is given in Table 1.2.

Table 1.2

Frequency distribution of the study population by their level of competency in selected skills

Skills	Level of competency			
	1.Perform skill competently without supervision	2-Perform skill competently with supervision	3-Not able to perform skill but has observed skill	4-Not able to perform skill and has not observed skill
	No. %	No. %	No %	No %
Suturing	28244.0	32250.2	355.5	20.3
Cannulation	42866.8	20131.4	111.7	10.2
NG tube insertion	14222.2	32951.3	16826.2	20.3
Catheterization	49376.9	13420.9	132.0	10.2
Setting up an IV drip	45470.8	16125.1	253.9	10.2
Infusion pump setup	18228.4	33251.8	12319.2	40.6
Blood and blood products Transfusion	36957.6	23636.8	314.8	50.8
Venipuncture	52581.9	9514.8	182.8	30.5
Venipuncture for blood culture	47073.3	13420.9	325.0	50.8
Pleural tap	162.5	21333.2	37859.0	345.3
Peritoneal Tap	15624.3	25439.6	21834.0	132.0
Removal of an Intercostal Tube	243.7	23236.2	34854.3	375.8
Injections-SC/IM	38259.6	19029.6	6610.3	30.5
Lumbar Puncture	91.4	18528.9	42165.7	264.1
GCS monitoring	46973.2	14622.8	213.3	50.8
CPR	33752.6	26541.3	385.9	10.2
Defibrillation	314.8	27042.1	31649.3	243.7

Skills	Level of competency			
Arterial puncture for ABG	46171.9	14322.3	355.5	20.3
Wound dressing	35755.7	21733.9	639.8	40.6
Suture removal	32049.9	20431.8	11017.2	71.1
Bandaging	32851.2	22635.3	8413.1	30.5
Venous cut down	345.3	19630.6	26942.0	14222.2
Glucometer use	57289.2	629.7	60.9	10.2
Nebulization	47974.7	13721.4	243.7	10.2
Connecting to an ECG monitor	35254.9	23035.9	589.0	10.2
Intubation	294.5	29546.0	30647.7	111.7
Airway maneuvers	22434.9	30447.4	10516.4	81.2
CVP line insertion	91.4	14021.8	44469.3	487.5
IC tube insertion	121.9	15223.7	44970.0	284.4

Majority of interns perceived that they were able to performs suturing, cannulation, catheterization, setting up an IV drip, infusion pump setup, blood and blood products transfusion, venipuncture, venipuncture for blood culture, injections-SC/IM, GCS monitoring, CPR, arterial puncture for ABG, wound dressing, suture removal, bandaging, glucometer use, nebulization, connecting to an ECG monitor, airway maneuvers competently with or without supervision respectively.

Lack of competency perceived on the following skills. NG tube insertion, pleural tap, peritoneal tap, removal of an Intercostal tube, lumbar puncture, defibrillation, venous cut down, intubation, CVP line insertion, IC tube insertion were rated by the majority of pre-interns as skills that could be performed competently with supervision or not able to perform the skill but has observed skill.

Discussion

The results of this study demonstrate a students' perceived levels of competence in selected skills during pre-intern year. Majority of pre-interns perceived that they were able to perform suturing, cannulation,

catheterization, setting up an IV drip, infusion pump setup, blood and blood products transfusion, venipuncture, venipuncture for blood culture, injections-SC/IM, GCS monitoring, CPR, arterial puncture for ABG, wound dressing, suture removal, bandaging, glucometer use, nebulization, connecting to an ECG monitor, airway maneuvers competently with or without supervision respectively.

According to the literature, it is important to have a pre-intern attachment to prepare medical graduates for their first postgraduate year [1, 14, 15, 17]. This is the first study to explore self-perceived competency of pre-interns in selected skills during their pre-intern year in Sri Lanka.

“When they are familiar with ‘bread and butter’ aspects of the intern role it helps to remove their anxiety associated with the transition, and it improve their confidence level as well [1, 14]. It is very important for a Sri Lankan trainee intern to take escalating clinical responsibility during that year. When the intern medical officers are performing their duties with competence, their work satisfaction is raised and the team dynamics become more favorable.

For developing effective clinical practice of interns is crucial to move from university-based competence into workplace performance [18]. The reason might be because in our traditional assessment of medical students until the 5th year usually tested their knowledge ‘competence’, in contrast to the application of that knowledge.

Lack of competency perceived on the following skills during the study. NG tube insertion, pleural tap, peritoneal tap, removal of an Intercostal tube, lumbar puncture, defibrillation, venous cut down, intubation, CVP line insertion, IC tube insertion were rated by the majority of pre-interns as skills that could be performed competently with supervision or not able to perform the skill but has observed skill. These skills are needed to be trained more in the Good Intern Programme.

“There was an introduction of shadowing program and pre-intern periods during the final year of medical school [1, 14, 17] because UK graduates reported low levels of preparedness for the intern role in 2002 [2, 14, 17]. Tomorrow’s doctors, United Kingdom (UK) recommends that students have “opportunities to shadow the PRHO post that they take up when they graduate” [6]. Study findings from these interventions demonstrated that a short pre-intern placement gave opportunity for focused clinical apprenticeship not obtained in previous curricula [1, 14] and that this can improve feelings of preparedness amongst students [14].” The findings further point towards the potential impact of a preparatory like Good Intern Programme.

In this article we considered the self-reported levels of competence, rather than direct measures of that competence. This study demonstrates the value of preparing medical graduates to practice as interns. In this transition process, trainee intern year acts as an integral part in Sri Lanka. Their learning occurs in the context of improving clinical experience and apprenticeship. This helps to progress from basic competence towards clinic performance, improves skill acquisition and enable development of the professional role. This study suggests that Good Intern Programme in pre-intern period can help prepare students for the intern role.

Conclusion

Although most of the skills were rated by majority of the pre-interns as skills that could be competently performed with or without supervision respectively, there were some skills which needed some improvement. This study suggests that Good Intern Programme in pre-intern period can help prepare students for the intern role.

Abbreviations

ABG: (Arterial Blood Gases); **CPR:** Cardiopulmonary resuscitation; **Central venous catheter:** CVP line; **ECG:** electrocardiogram; **GCS:** Glasgow Coma Scale; **GMOA:** Government Medical Officers' Association; **IC:** Intercostal; **IV:** Intravenous; **IM:** Intramuscular; **KDU:** General Sir John Kotelawala Defence University; **MOH:** Ministry of Health; **NG:** nasogastric, **SC:** Subcutaneous; **SD:** standard deviation, **SHRI:** Society for Health Research and Innovation; **UK:** United Kingdom

Declarations

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No

Availability of data and materials

The data sets generated and analyzed during the current study are not publicly available due to not obtaining ethical clearance to share data publicly but are available from the corresponding author on reasonable request.

Contributions

ABP, PKBM, SS conceptualized the research. HMBHD, MDH did the data analysis. HMBHD, MDH, AIH and WSPA drafted the manuscript. AG, PM, CE, JMSDR, PC and NDSKW contributed to interpretation of the data, substantively revised the manuscript and approved the final version.

Ethics approval and consent to participate

Ethical approval was obtained from the Ethical Review Committee, Sri Jayewardenapura Faculty, Sri Lanka. All methods were performed in accordance with the relevant guidelines and regulations (e.g. Declaration of Helsinki). Informed consent was obtained from all subjects.

Consent for publication

Not applicable

Competing interests; The authors declare that they have no competing interests.

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