An outcome based curriculum for postgraduate training in Forensic Medicine in Sri Lanka: four new learning outcomes.

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Abstract

Postgraduate education, training and assessment in Forensic Medicine in Sri Lanka are conducted by the Postgraduate Institute of Medicine, University of Colombo (PGIM). This local training program commenced about three decades ago in order to prepare trainees for the diploma and MD examinations in Forensic Medicine. The basic structure of this programme has remained relatively unchanged over the years except for a few minor modifications. In keeping with the current recommendations of the PGIM and based on best evidence medical education (BEME) the Board of study in forensic medicine has designed an outcome based postgraduate curriculum with changes to the training programme. The new programme is aimed at producing specialists who will meet accepted universal standards. The purpose of this paper is to explain the need for a change, outline how the learning outcomes were identified, and highlight the training pertaining to four new learning outcomes. The experience of the author in the design and implementation of an innovative undergraduate curriculum in Forensic Medicine in the Faculty of Medicine Colombo more than a decade ago has also been used in the design of this curriculum.

Introduction

In the past Sri Lankan doctors who wished to obtain postgraduate qualifications in forensic medicine had to proceed overseas to undergo training and sit for the requisite examinations. This practice ceased with the introduction of "a postgraduate training program" in Forensic Medicine by the Postgraduate Institute of Medicine (PGIM) University of Colombo three decades ago. The program which began with humble beginnings had produced a handful of PGIM Board certified specialists by 1986 [1]. It has grown over the years and now there are over 50 PGIM Board certified specialists in the country in both the Health Ministry and the University Forensic Departments. The original curricula concentrated on mapping course contents without identifying learning objectives. Teaching methods were limited to didactic lectures with little or no practical demonstrations. There was inadequate provision for evaluation of the trainees during the training. However in spite of the

shortcomings in the curricula, except for a few minor modifications, the basic structure of the original curriculum remained unchanged over the years.

For example, the course contents remained static and the more passive learning methods like didactic lectures continued. Many components in the assessments were subjective and not enough measures were taken to rectify it. Best evidence medical education (BEME) was rarely regarded as being important. BEME is the implementation by teachers in their practice of methods and approaches to education, based on the best evidence available [2].

BEME in the Faculty of Medicine Colombo

On the other hand, as far back as 1995 the Faculty of Medicine, University of Colombo used a new approach to the curriculum and pioneered an integrated undergraduate curriculum based on BEME. Concurrently, the undergraduate Forensic Medicine curriculum underwent major changes with the author as the founder convenor of the medico legal module. More active learning methods such as problem based learning sessions, seminars, mock trials and fixed learning modules were introduced and sustained for 15 years. The experience so gained has been used in the design of this curriculum.

Experts regard medical education as a continuum; from undergraduate to postgraduate and beyond. It is important to align undergraduate medical education to postgraduate training in order to improve the service of doctors [3]. Just as undergraduate forensic medicine education changed, postgraduate education also needs to change in the best interests of the stakeholders. The needs of the candidates such as more active learning methods, regular follow up, feedback and access to information regarding the training and assessments also have to be met.

Evolvement of curriculum change

Recently the Higher education Ministry proposed numerous changes and accreditation processes to the curricula of higher educational institutes [4]. Complying with the proposal, the PGIM too introduced changes to curricula based on BEME such as outcome based curricula and modern student evaluations like peer team rating [5], as initiated by some boards of study in year 2012. The Board of study in Forensic Medicine appointed a subcommittee to design the curriculum for the postgraduate education in Sri Lanka. During a series of several meetings the curriculum was developed with the participation of the members with the significant contribution of a few. The process of development is given below. The subcommittee was also motivated by the commitment of the Director PGIM to advise, assist and expedite the process.

With postgraduate training in forensic medicine spanning almost three decades, it is opportune to ask ourselves whether the system has produced specialists who meet the needs of their clients. Have our graduating specialists mastered the desired practical skills and competencies? Are they knowledgeable about and around the subject of forensic medicine? Are they committed to updating their knowledge and skills? Are they willing to take constructive criticism? Do they possess the necessary values and attitudes expected of

a forensic medical specialist? Can they be effective team members and leaders? Can they interact harmoniously with patients, colleagues and relevant others in relation to their practice? Are leadership skills lacking in them? Are they adept in imparting knowledge and skills to those who require it? Do they possess adequate testifying skills and do they deliver medical evidence in the court room with confidence?

The pertinent question to ask is, "is there room for further improvement of the curricula in order to produce graduates who meet universal standards?" If so how do we set about bringing such changes to the future curriculum?

Process of developing the learning outcomes

The current trend in the design of a new medical curriculum is an outcome based curriculum (OBC). Having the final output - the desired characteristics of the specialist - in mind, and then working backward will generate an OBC [2]. Outcome based postgraduate curricula have been developed and successfully implemented with good results in Sri Lanka in other fields like agriculture [6]. This is being used as a model for developing curricula in Sri Lanka. This model was used successfully in the development and implementation of a curriculum for "sexual assault forensic examination in Sri Lanka" meant for medico – legal officers in Sri Lanka.

Specialists in forensic medicine should be competent to provide oral and documentary evidence competently in courts in an efficient, professional manner. They should be able to perform a competent medico legal management within their practice and contribute positively to the Justice and Public Health systems of the country. They are required to provide a satisfying service to the examinees and loved ones of deceased persons and to safeguard and protect the rights of the deceased.

Embodying these concepts, a mission statement should be designed for the curriculum and training. The newly coined mission statement for the Diploma in Legal medicine is "to produce a competent practitioner in forensic medicine who provides a forensic medical service to the country in keeping with good medical practice and functions as a competent, independent, impartial expert medical witness in the legal system of Sri Lanka". Four main domains were designed to fulfill the mission statement. The learning outcomes were identified under the four domains, keeping this mini graduate profile in mind. The next step was to identify the specific learning outcomes which went into further details of the expert we have in mind.

The decisions about the course contents and how it is organized, the teaching methods and the assessments were designed to achieve the stated learning outcomes [2]. It is important to bear in mind that the learning outcomes need to be communicated to the trainees in advance thus gearing them towards comprehensive training; a practice hitherto lacking in the existing training programme.

The domains identified by the curriculum subcommittee of the Board of study to derive the learning outcomes are given below.

a. Competent, effective, caring, efficient and impartial medical expert in the field of Clinical Forensic Medicine and Forensic Pathology
b. Interpersonal and communication skills
c. Personal development and professionalism
d. System based practice (health advocate)

Identifying learning outcomes

17 learning outcomes were identified under the above four domains for specialists in forensic medicine.

1. Holistic ML management
2. Theoretical knowledge
3. Clinical skills(Practical skills/procedures/autopsy skills
4. Ancillary investigations
5. Standard Medico - legal management
6. Issuing a quality report
7. Maintenance of records and statistics
8. Testifying in a court of law
9. manager
10. IT
11. Teaching
12. Lifelong learner/scholar
13. Communicator
14. Collaborator
15. Personal development - and professionalism
16. Health promotion and disease prevention
17. Researcher

Four of the above learning outcomes will be justified and the training pertaining to them will be highlighted. These four were never considered as being a learning objective in the previous curricula.

1. Holistic medico-legal management

Holistic medico-legal management is managing the medico-legal problem taking the situation as a whole and not only concentrating on the medical examination of the victim or deceased. It requires strict adherence to ethical responsibilities like consent and confidentiality. It also requires a moral obligation like sensitivity regarding many factors which can affect the behaviour of an examinee or relative. Being aware of one's own prejudices and taking corrective measures so that it does not influence the management is also addressed under this learning outcome.

Maintain trust – Victims of crime are vulnerable and callous interviews can revictimise them Respect and compassion for patients or victims, a non judgmental attitude, and the realization by victims that the doctor understands the effects of the trauma they have experienced, hastens their healing process. Are our doctors sufficiently trained to look at victims with this aspect in mind? Training the trainers using a video of the real life of the victim of crime was one way of creating this awareness in a recently conducted workshop initiated and organized by the author [7]. In addition, using case discussions or role play, these issues can be discussed in depth with trainees. Simulated patients at OSCEs can be used to test these attributes.

The forensic medicine trainee has another unique skill to master; to be mindful of the dignity and comfort of patients while

safeguarding impartiality. It will do no good for a forensic medical practitioner to excel in being impartial while not caring about the safety, privacy and comfort of the victim. On the other hand it will be detrimental to the victim of crime if the doctor were to overstep his boundary in being compassionate. At an appeal court hearing a Sri Lankan doctor who visited a victim of crime and gave financial assistance was adjudged as having taken an undue interest in a victim of crime and thereby branded as being partial [8].

2. Issuing a quality report

Issuing a quality report was not an identified learning objective in the previous curriculum. But it was tested at the clinical examination thereby one could argue that it becomes a learning outcome as students are driven to learn what is being assessed. However, no designated time was devoted for candidates to obtain this training. But considering the undergraduate appointment in Forensic Medicine in Sri Lanka, there is designated time where students fill up medico legal reports and postmortem reports and present them to the lecturers and any mistakes are corrected. In the Faculty of Medicine Colombo, this is to achieve an identified objective, "prepare comprehensive documentary reports…….as an expert medical witness in a court of law" [9]. Unfortunately in postgraduate training this aspect has been much neglected; the deficiencies only to be discovered too late at the clinical component of the examination.

Therefore similar to undergraduates, postgraduate trainees too need to present a specified number of reports to the educational supervisor and obtain certification of competency. There will be designated time to learn how to write quality reports, not using a lecture but with case based group discussions.

3. Testifying in a court of law

Many of the postgraduate trainees who followed the forensic medicine programme in the initial stages had already engaged in medico – legal work and given evidence in High court trials. Most of the present day trainees have never given evidence or attended a court trial, and some may not do so until after they have completed their Board certification. This can lead to lack of confidence and can contribute to loss of credibility as a witness. Testifying includes speaking out clearly and concisely, presenting your findings in a methodical manner, formulating opinions and justifying with logical clinical reasoning and quick decision making in response to unexpected questions by legal counsel. In addition to these competencies, expert witnesses should not be arrogant or domineering and should be impartial and, seen to be impartial. Sadly, many current trainees learn these by trial and error, years after becoming specialists.

To achieve this outcome, mock trials with feedbacks are superior to listening to a didactic lecture on "Expert medical witness". In fact it has been demonstrated that moving from traditional lectures to role play gives a student satisfaction ratio of about 80% [10]. Mock trials in drama form are a part of teaching program in the medico legal module of the Faculty of Medicine, Colombo since 1998 [11]. The experience gained by these university teachers would be used in the design and

implementation of such novel teaching methods in the new postgraduate curriculum.

A mock trial is a form of role play. In role play, the main participants will act out the drama and others will evaluate the actors on specific guided questions [12]. Thus active learning will take place for the actors as well as the observers. One observation by the author is that students tend to concentrate mostly on their acting ability rather than the learning activity. The feedback questionnaire should be designed to obtain maximum learning out of the role play. Some of the specific learning objectives for the observers could include, the manner in which the doctor addresses the judge, seating positions of the main actors and, critical thinking skill in answering questions posed by counsel.

4. Communicator

Existing Previous curricula laid major emphasis on creating specialists who are content experts. Being a content expert is of prime importance. But measures should also be taken to ensure that trainees accumulate generic or non domain skills: skills which can be applied across a variety of subject domains. In fact identifying roles of medical specialists, “Can Med roles”, the royal college of Physicians and surgeons in Canada identified “medical expert” as the central role. Roles depicting generic skills were integrated in the form of a Venn diagram, the medical expert integrating with all roles in the centre. The Can Med roles, used by worldwide curriculum designers thus acknowledge these generic skills as of great importance to practice in any medical specialty [13].

One essential generic skill essential for medical postgraduates to operate at optimum level is effective communication skills [14]. In medico legal work effective communication is essential to testify in courts and for victim interviews. Consider for example, the evidentiary value of disclosures made by child sexual abuse victims; a false story (due to the suggestibility of the child) given to an inexperienced interviewer can lead to miscarriages of justice. Furthermore obtaining the history while paying attention to the fears and concerns of the victim will assist the healing process of the victim, a skill that can be mastered with the right training [15].

Role play with standardized patients appears to be an effective tool rather than mere lectures to impart such clinical communication skills [16]. As a preamble to this type of more active learning the author conducted a workshop for trainers on forensic interviewing skills using role play as the main teaching method. It was a novel experience for trainers and many positive feedbacks were received. It is hoped that trainers will use this experience to teach their trainees. Review of the videotape of the trainees’ interviewing the victims is another costly but proven, effective method of communication skills training [16]. In a multicultural, multi religious country like Sri Lanka, communicating with victims of crime have to be done in a culturally sensitive manner, an aspect highlighted even in present day undergraduate curricula. Another application of communication skills is maintaining healthy interpersonal relations and communication with colleagues and other health care team members. This

includes resolving interprofessional conflicts effectively.

Portfolio based learning

The various learning activities the student engages in to achieve the learning outcomes described above can best be captured by maintaining a portfolio. "A portfolio is a collection of material, collated by the individual over time, used to demonstrate their chronological learning, performance and development. It can enable individuals to reflect on their abilities and highlight areas that could be improved to enhance the quality of their practice." [17]. Trainees will be expected to maintain a portfolio of their learning activities during the training appointment. An important key in the portfolio is reflection and is used to demonstrate that learning has actually taken place [2]. In addition to the traditional log of activities there will be a "reflective" log showing the transition in the discovery of mistakes or errors, and steps taken for rectification and how he will ensure not to make the same mistake again. They will reflect on weaknesses and how these weak areas were strengthened, self assessment of progress of training and what lessons were learnt in the process. This prepares the doctor for future learning process so that he will identify his mistakes, learn from them, not repeat the same mistake again and again and will go for new learning experiences.

Furthermore, the portfolio promotes self-regulated learning and makes the candidate responsible for their own learning, a trait desired not only in education but in any form of changing behavioural patterns. The portfolio has to be defended by the candidate during a "portfolio viva", thus minimizing the danger of dishonestly recording a learning process which never took place.

Some of the entries that could be included in the portfolio for the above four outcomes include proof of attending a court case, mock trial, evidence of participating in role plays on communication skills, certificate of competency regarding writing a quality report and written feedback from the trainer regarding display of values and attitudes in the management of victims.

Training methods

In addition to the above mentioned teaching methods, to conform to BEME many didactic lectures have been replaced by more discussion type teachings. Problem based learning, small group teaching, case based discussions, conduct of journal clubs, are known to be more active types of teaching which appear to improve reading habits and the use of medical literature in practice [18]. E learning, using social media, currently conducted by the current president of the College of Forensic Pathologists, designated "E chat", has been successful in trainee education and will be carried forward in the new curriculum. Another learning activity designed by the current Board of study, "clinico – pathological conference" where all trainees participate and make presentations also has been a success due to the voluntary participation of committed trainers.

In the new training programme the trainer also has a major role to play. Trainer should organize the teaching leaning

specific tasks and give clear guidelines on what is expected of trainees and then evaluate the progress made. The success of the portfolio will also depend on the trainer's commitment.

Conclusion

The postgraduate curricula in Forensic Medicine in Sri Lanka needed an innovative change. The present subcommittee has been successful in designing a curriculum according to BEME. Four New learning outcomes hitherto unemphasised have been given their true significance within the curriculum. The changes to the curriculum and training programme in order to achieve the four outcomes have been discussed.

Curriculum change however, is an ongoing process which will continually change with emerging trends in medical education and the needs of stakeholders. In fact, this designed curriculum can be taken up to a higher level if learning outcomes were derived by a careful formal assessment of stakeholder needs, mainly the key players in the criminal justice system. This need put forward by medical educationists for undergraduates, holds true for postgraduate education as well [19]. This will be considered as the next challenge for the Board of study in Forensic Medicine.

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