

## ORIGINAL ARTICLE

# CAPACITY BUILDING TO INCULCATE TWELVE-ROLES OF MEDICAL-TEACHER USING PATIENT-SAFETY THEME

Dr Iram Khursheed<sup>1</sup>, Dr Rahila Ali<sup>2</sup>

Department of Educational Development, Ziauddin University Karachi. Pakistan

## ABSTRACT

**Background:** Teacher's role has evolved from a knowledge-transmitter to that of a learning-facilitator. To professionally develop postgraduate medical/dental trainees-as-teachers (PGTT) considering teaching as one of the exit-level outcomes of their Master's program. A course was conducted on twelve-roles of medical teacher with patient-safety theme. This study was intended to explore the level of PGTT's satisfaction regarding their roles developed in response to their engagement in course activities.

**Methods:** In 2015, a one-week course, 'Fundamentals of Health-Professions-Education (FHPE)' was conducted for 25 PGTT, underpinned with adult learning principles in context of patient-safety theme for the development of twelve-roles of medical teacher. Variety of teaching approaches with formative and summative assessments were done to promote learning-by-doing (Kolb's-theory). A self-administered cross-sectional questionnaire on a 5-point Likert scale was used with 29 questions on role of course facilitators, Course plan & conduct and Development of their own teaching skills. Satisfaction-level was expressed in the form of percentages.

**Results:** All 25 PGTT responded on three major domains of the questionnaire. All (100%) agreed on the effectiveness of the roles of course facilitators and the course plan & conduct. Majority (96%) of them showed agreement on the improvement of their teaching skills developed during this course.

**Conclusions:** The FHPE-course was found as a worthwhile opportunity for PGTT in acquiring the desired outcomes under-supervision and with respect to its future implications in their respective settings. Building capacity for scholarship of teaching & learning is a way forward to successful academic achievements.

**KEY WORDS:** Roles of medical teacher, patient-safety, post graduate students as teachers, capacity building, health professions education.

## Corresponding Author

**Dr Iram Khursheed**

Assistant Professor,

Department of Educational Development, Ziauddin University.

Email : iram.khursheed@zu.edu.pk

## INTRODUCTION

There has been an exponential growth in the field of Health Professions Education (HPE). Teachers may lack the confidence needed to use unfamiliar teaching techniques without formal preparation for their role which may hamper creative and novel instruction<sup>1</sup>. Academic healthcare institutions have therefore the responsibility to provide training to their teachers in the innovative trends necessary to face the challenges. This will enable them to stay at

par with other leading institutes nationally and internationally in preparing their graduates to serve in the best interest of their patients and the community safely and effectively. This is why Teacher development program (TDP) is gaining appreciation universally in HPE to prepare individuals for their roles as teachers, clinicians, researchers and administrators for the purpose of enabling the institution to meet its goals, vision and mission.<sup>2,3</sup>

TDPs help to nurture better quality teaching, educa-

tional research and leadership<sup>4</sup>. These programs not only help acquire new teaching skills and explore advanced resources but also provide an insight into pedagogy behind teaching practices<sup>5</sup>. Several such programs exist globally including Europe, USA and Canada. <sup>6-8</sup> Various academic health professional institutions in Pakistan like University of Health Sciences (UHS), Khyber Medical University (KMU), Dow University of Health Sciences (DUHS) and Aga Khan University (AKU) also offer faculty development programs (FDP). <sup>7-10</sup> These introductory level HPE courses are aimed to provide an entry-level teaching qualification for teachers who are engaged in medical education, wherein participants cover four areas: curriculum development, teaching & learning, assessment and feedback.

Ziauddin University (ZU) offers faculty development workshops at various levels. At present, Department of Educational Development (DED) is focusing on quality improvement of undergraduate and postgraduate medical education for better outcomes of safe-patient-care. As a result of increasing morbidity & mortality due to medical errors, a number of countries have initiated or implemented some patient-safety education or training in their undergraduate medical curriculum. <sup>8-13</sup> Incorporating the knowledge of how to do this into the curriculum of medical schools is an urgent necessity.<sup>9</sup> Looking into the essential training needs in academic healthcare institutions, DED has initiated a one-week course as, 'Fundamentals of Health Professions Education (FHPE)'. FHPE functions as a platform to provide basic understanding in the underlying principles of education through application in context of patient-safety at the level of undergraduate healthcare education.

Faculty development is complex and multiple factors need to be considered while designing such programs to accommodate diverse needs.<sup>3</sup> FHPE course design is based on the Six-Step Approach to Curricular Development & it reflects the underpinnings of the adult learning principles. <sup>10,11</sup> Instructional approaches were used to promote learning-by-doing (Kolb's-theory) and both formative and summative assessments were incorporated.

The outcome of Postgraduate Master's program in basic health sciences (M Phil) offered by ZU, aims to develop them as teacher researchers /content experts in one of their chosen subjects. As part of their postgraduate training, they are involved in teaching undergraduate students since from the beginning of their training to provide them experiential learning opportunities which allows them to practice the diverse roles expected from a medical/dental teacher.

In order to promote excellence in teaching it is required to make participants aware of the current

and effective teaching & learning strategies to apply at their own settings. Effective teachers are expected to perform multiple roles and duties at work. FDP can be tailored considering "twelve-roles" that will help to equip the teachers with the competencies necessary for them to fulfill the roles expected of them.<sup>12</sup> In FHPE, participants are provided with opportunity to display all the teaching roles in simulation with the goal of developing PGTs' teaching skills.

This study was intended to explore the level of PGT's satisfaction regarding their roles developed in response to their engagement in course activities.

## METHODS

A quantitative, cross-sectional descriptive study design was used to evaluate FHPE, based on twelve-roles of a medical-teacher. The study participants were newly inducted 25 M-Phil candidates who were required to have an affiliation with a teaching institute as a basic science or a clinical-teacher.

A self-administered questionnaire on a 5-point Likert scale was used. It consists of 29 questions based on three major domains i.e. (1) roles of course facilitators, (2) Course plan & conduct and (3) Development of their own teaching skills. It was designed to evaluate the skills learnt during the course and the learning environment by selecting few items from DREEM-inventory. SPSS.v.19 was used for data analysis. Satisfaction level was expressed in the form of frequencies and percentages.

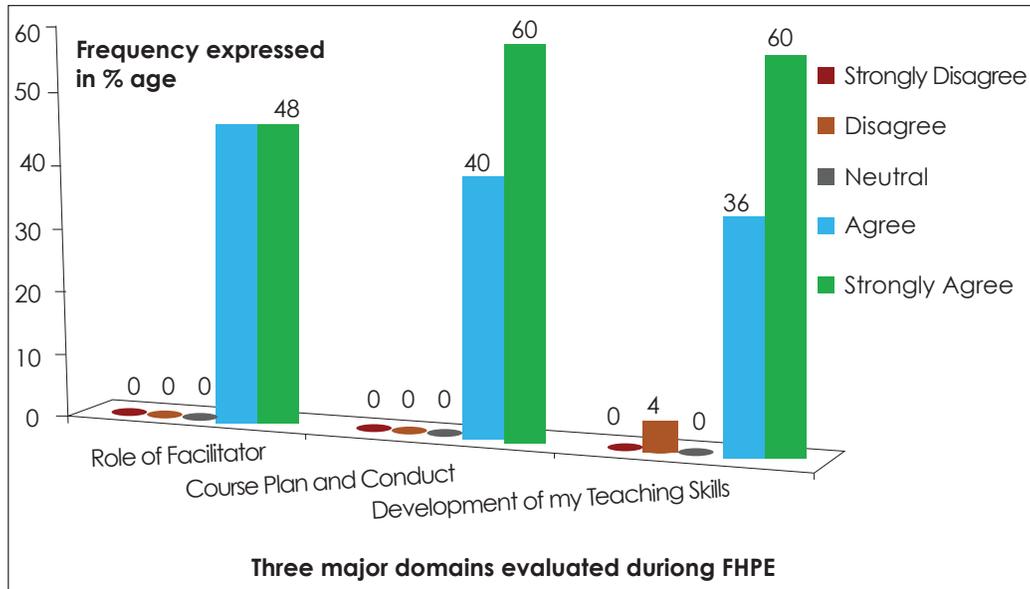
## RESULTS

All 25 PGT responded on three domains shown in **figure 1**. Majority (96%) showed agreement on clarity of their concepts in essential areas of education, development of their competence-level in teaching-skills and analysis of their roles-as-teachers. Regarding their ability to derive core-content from World Health Organisation (WHO) guide on Patient-Safety, 80% of them exhibited agreement while 88% agreed over selecting the most appropriate teaching strategies for the objectives. Regarding abilities to develop specific and measurable objectives on Patient-Safety, demonstrate effective teaching strategies in-simulation, select assessment tools for the given PS objectives, develop MCQs-one-Best, develop study-guide by incorporating the essential components and provide feedback to students and peers effectively; agreement has been shown by 92% of the trainees. Most (88%) of the participants were clear of the course objectives and found the course schedule well-structured. Regarding the course atmosphere, 84% found it was relaxed while all (100%) found the atmosphere was motivating and they were actively involved in learning. Majority (92%) of the trainees

found the course content relevant to their current responsibilities and (96%) had agreement that course provided them with opportunities to develop interpersonal skills Refer **Table 1**.

All (100%) found that facilitators are knowledgeable and friendly. Majority (96%) responded that facilitators

were well prepared for their sessions and provided feedback effectively. Most participants (92%) found that facilitators addressed their learning needs and they were comfortable to ask questions from them. Almost 88% opine that majority of the sessions were stimulating wherein facilitators gave clear examples.



**Figure-1: Post-course Evaluation by PGTT**

Table 1: Post Course Response on Twelve Roles of Medical Teacher Experienced by PGIT

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Role of Facilitator</b>					
The facilitators are knowledgeable	0	0	0	8(32%)	17(68%)
The teaching on most of the occasions is stimulating	0	0	3(12%)	13(52%)	9(36%)
The facilitators are not authoritarian	02(08%)	08(32%)	05(20%)	02(08%)	08(32%)
The facilitators address students learning needs	01(4%)	0	01(4%)	07(28%)	16(64%)
The facilitators are good at providing feedback to us	0	0	01(4%)	06(24%)	18(72%)
The facilitators give clear example during sessions	0	01(4%)	02(08%)	08(32%)	14(56%)
The facilitators are well prepared for the teaching sessions	0	0	01(4%)	04(16%)	20(80%)
I feel able to ask questions from the facilitators	01(4%)	0	01(4%)	04(16%)	19(76%)
I feel my facilitators are like friends that i can go to for help	0	0	0	09(36%)	16(64%)
<b>Course Plan and Conduct</b>					
The course schedule is well structured	0	0	03(12%)	07(28%)	16(60%)
I am rarely bored during course sessions	07(28%)	02(8%)	04(16%)	09(36%)	03(12%)
The atmosphere is relaxed during sessions throughout the course	0	0	04(16%)	04(16%)	17(68%)
There are opportunities for me to develop interpersonal skills	0	0	01(4%)	06(24%)	18(72%)
I did not find the experience of attending this course disappointing	0	01(04%)	02(08%)	02(08%)	20(80%)
I am clear about the learning objectives of the course	0	0	01(4%)	08(32%)	16(64%)
The atmosphere motivates me to learn	0	0	0	09(36%)	16(64%)
The teaching encourages me to be actively involved in learning	0	0	0	05(20%)	20(80%)
What ever I learn here seems relevant to my current responsibilities	0	0	02(08%)	06(24%)	17(68%)
My concepts are now clear in essential areas of education	0	0	01(4%)	09(36%)	15(60%)
<b>Development of My Teaching Skills</b>					
The teaching helps to develop my competence in teaching skills	0	0	01(4%)	09(36%)	15(60%)
I am able to derive core content from WIO patient-safety Guide	01(04%)	0	04(16%)	11(44%)	09(36%)
I am able to develop SMART objectives on safe Patient care	01(04%)	0	01(04%)	09(36%)	14(56%)
I am able to select the most appropriate Teaching & Learning strategies for the objectives	01(04%)	0	02(08%)	11(44%)	11(44%)
I am able to demonstrate effective teaching strategies in simulation	01(04%)	0	01(04%)	12(48%)	11(44%)
I am able to select assessment tools for the given Patient Safety	01(04%)	0	01(04%)	09(36%)	14(56%)
I am able to develop MCQs one Best Type	01(04%)	0	01(04%)	07(28%)	16(64%)
I am able to develop study guide by incorporating the essential component	0	0	02(08%)	12(48%)	11(44%)
I am able to develop analyze my roles as teacher	01(04%)	0	0	06(24%)	18(72%)
I am able to provide feedback to students & peers effectively	01(04%)	01(04%)	0	07(28%)	16(64%)

### DISCUSSION

This study shows positive results through responses

obtained from all PGTT who participated in FHPE. Learning acquisition of teaching skills for the twelve-roles of medical teacher was considered as

one of the major FHPE outcomes. Representation of all twelve-roles of a teacher within academic healthcare institutions is noteworthy, a teacher rated by students and peers as poor in one role, e.g. giving formal lectures, may perform well with small groups of students or alternatively as a developer of resource materials<sup>13</sup>.

As part of safe-patient-care initiative, currently at ZCM patient-safety content integration is under-progress in undergraduate curriculum 1-5 years. For smooth integration of patient-safety in undergraduate-medical-curriculum, it is pivotal to educate the teachers about patient-safety content and its delivery. It is observed that in medical colleges, the postgraduate students have limited involvement with undergraduate teaching and learning so, they lack the opportunities to learn and develop teaching skills<sup>14</sup>. It is evident from research results that teaching improves the learning of residents<sup>15</sup>. Hence, teaching will not only improve the learning of PGTT but will also develop their teaching skills. Therefore main theme of FHPE was chosen as Patient-safety, for attainment of FHPE objectives in acquiring twelve-roles of medical teacher in simulation by PGTT.

Course participants were expected to derive content from WHO patient-safety guide to develop and integrate objectives for the assigned organ system modules, select & align teaching & assessment strategies and develop study-guide to incorporate these.

Achievement of course objectives was assessed through formative and summative assessments. Formative assessment was ensured through feedback provided on the basis of their participation observed during each session throughout this course. Both facilitators and peers were actively involved to provide feedback. Each individual actively participated in group work and had opportunity to share the work with others through presentations and reflect and improve it on the basis of constructive feedback. This helped to enhance their facilitation skills and concept clarification of all participants in a learner-centered conducive environment maintained throughout the course. In 1998, the World Federation for Medical Education highlighted the important influences of academic and clinical environment on the progression of knowledge, skills, attitudes and behaviors of medical students.<sup>16-17</sup>

### CONCLUSION

Majority of the PGTT were found satisfied in acquiring the desired outcomes by displaying the twelve roles of medical teacher in simulation especially with respect to its future implications. Building capacity for scholarship of teaching and learning is a way forward to successful academic achievements.

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