

ORIGINAL ARTICLE

EVALUATION OF DIPLOMA IN FAMILY MEDICINE ENSURING QUALITY THROUGH CIPP MODEL

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ABSTRACT

BACKGROUND: To ensure quality of Diploma in Family medicine (DFM). An evaluation was conducted to determine the components and outcomes of the course for further development of the program.

METHODS: A Cross-sectional study was conducted with 15 students of three batches of DFM. Data collection form was designed on CIPP evaluation approach. It was used to collect information regarding goals and objectives, implementation strategy, satisfaction of instructor and trainees and impact of the program on the target population

Descriptive measures (frequency and percentage distributions) were used to analyze the data on SPSS 19.

RESULTS: Majority (92%) were satisfied with the course content, organization, learning environment and teaching methods of Family medicine rotation. Most of the respondents (92%) were also satisfied with learning resources accessible and assessment methodologies employed for ongoing assessment. They found 'the atmosphere conducive for learning', 'the rotations were a good experience, well organized with learning objectives provided at all rotations' some suggestions made by students for improvement of the course 'were teaching should be more interactive and more opportunity should be provided to participate with consultants' The top rated rotations were dermatology, emergency medicine, ENT and orthopedics; where organizational learning environment and quality of delivery were considered as the best parts.

CONCLUSIONS: The program was found successful in achieving its broad objectives. The graduating students found the training effective in enhancing team building abilities, independent thinking, analytical and problem solving skills and professional development. They were very satisfied with the administrative support (67%), infrastructure of the department (33%) and guidance by supervisors (67%).

KEY WORDS: Evaluation, Family medicine, Diploma

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INTRODUCTION

The Department of Family Medicine at Ziauddin College of Medicine introduced a two-year postgraduate diploma in Family medicine (DFM) in 2009. The program was initiated to provide struc-

tured training in Family Medicine and empower doctors with skills that will enable them to be better family practitioners. Studies report that primary care doctors achieved improvement in clinical practices, patient care, professional role development and lifelong learning interest after taking postgraduate

courses.^{1,2}

An internal evaluation was conducted to draw attention to areas; which required improvement or innovation and promote development and further enhancement of the program. Evaluation is comparable to a clinical audit and it emphasizes on quality improvement.³ It is an essential element of the educational process, and determines whether program objectives are achieved, how well educational needs have been met and educational standards are attained.⁴ Course evaluation is an essential process for continuous enhancement¹

Quality Enhancement Cell (QEC) initiated the task of carrying out self-assessment of the academic programs offered by the University and DFM was one of the initial programs chosen for evaluation. The self-assessment covered the process, outcome and content. The program representative team comprising of the program director and associate program director prepared the self-assessment report.

The format chosen for this self-assessment follows the Context, Input, Process and Products for the (CIPP) model. Morrison recommends that to reduce bias information should be collected from multiple sources.³ Academic institutions are advised to consider the benefits and drawbacks of different evaluation methods, and then develop an institution specific evaluation model.⁵

The evaluation served a formative purpose and provided an analysis of information to aid program development and improvement. The findings obtained were used as a basis for decision making and initiating improvements.

An internal evaluation was preferred, as an internal evaluator has more knowledge of the program model and can assess the immediate outcomes for formative evaluation. The internal evaluator can

assist managers in decision-making. The evaluator is familiar with the stakeholders, and has awareness of the history of the organization, the needs of the clients and stakeholders.⁶⁻⁸

CIPP model has been widely used for educational evaluation and is selected for its usefulness in program planning, operation and review. It serves as a useful guide to improvement, directs choice of program objectives, assignment of priorities, and choice of strategies, implementation and modification.^{6,9} The CIPP model is decision focused, with a systemic provision of information for program management and operation.¹⁰ Besides, as the purpose is formative, examining issues of context, input and process can identify problems and help in suggesting solutions for achievement of outcomes. It encourages cyclical approach to evaluation. This study was designed to evaluate the objectives, organizational structure and product of Diploma in Family Medicine for further development of the program.

METHODS

A cross sectional survey was carried out between 2011 and 2012. Multiple Self-administered questionnaires provided by QEC gathered relevant information and assessed the quality of the program along various dimensions. The residents, members of the program representative teams and the faculty of Family Medicine filled the questionnaires at end of each term. Data was analyzed using SPSS version 19. Evaluation approach selected for this purpose was Context Input Process Product (CIPP) model. Evaluation framework is given in **Table 1** and **Table 2** shows the data collection plan.

Data Analysis: Descriptive measures, frequency and percentage distributions were used to analyze the data.

Table 1: Evaluation framework applied to the Diploma Family Medicine Program

Context	Input	Process	Output
Achievement of program goals	Program design	Teaching and Instruction Strategies	Product - Assessment - Utility
1. Assist decision makers in making desirable amendments to program	1. Determine factors for successful implementation of the program	1. Identify areas for improved teaching 2. Facilitate structuring of curriculum	1. Determine if the educational standards set for the program are being attained
2. Improve the quality of education for primary care physicians	2. Assist decision makers in making desirable amendments to program	3. Providing feedback to teachers and program developers	2. Determine the effect of the program on graduates

Table 2: Data collection plan

Context Evaluation			
Evaluation question	Information required	Information source	Method of collecting information
What are the goals & outcomes of the program?	Goals and objectives	Program document	Review of goals & objectives, Strategy to meet objectives
Input Evaluation			
What infrastructure does the University provide to support the program	Facilities available to department of FM, # of faculty & qualifications, # of rooms, computer, library support, class room, secretarial support, technical staff & office equipment. Space in clinics financial support Type & # of patients that come to the practice	Department head, librarian, Information Technology dept.	Survey of area, Review of institutional facilities
Patient pool		Registers	
What strategy is used to implement the program?	Clinical rotations Weekly teaching session	DFM policy document	Review of Curriculum Clinical rotations
What is the budget	What support & financial resources are available	Department budget	Review
Press Evaluation			
How is it ensured that the program objectives are met Are these modalities accomplishing all the objectives Are learning & teaching methodologies accomplishing all the objectives	1. Curriculum design & organization 2. Program Schedule 3. Learning & teaching methodologies 4. Assessment methodology	1. DFM policy document 2. Schedule 3. Rotations vs objectives	Review of documents

RESULTS

Seventeen candidates from five different batches participated in the evaluation of which six were male and eleven female, the average age of the participants was thirty years. The candidates filled the rotation evaluation forms and graduating student's survey. Nine faculty members participated in the survey and gave their feedback on performance of the students and organizational structure of the program shown in **Figure 1**.

CIPP EVALUATION

Context: Mission and objectives of the program are defined and aligned with the institutional vision and mission. Training programs in Family Medicine in Pakistan are limited. College of Physicians and Surgeons of Pakistan (CPSP) conduct a fellowship as well as a membership exam but only few institutes across the country are eligible to provide training for it. There are only 3 institutes across the country with recognized family medicine residency program¹¹ Candidates without any formal initial training but with experience in the relevant field are permissible to take membership of CPSP.¹² In addition, Member of Royal College of General Practitioners (MRCGP-INT) is offered which is also a certifying exam without formal training requirement. It is recognized that some countries offer vocational training to general Physicians. However, in countries without such programs candidates who wish to sit for such exams, need an outlet to receive such forms of training and coaching.¹³

Input and process: The importance of a learning environment is well recognized by both learners and teachers.¹⁴ The program offers supervised training experience in core clinical rotations at ambulatory and in-patient setting; where students have an opportunity to interact with patients presenting with a spectrum of evolving routine and chronic health problems. The curriculum of the program is integrated based on clinical rotations and the learning objectives are distributed throughout the curriculum.¹⁵ learning in all rotations starts with a base of theoretical knowledge and incorporates problem analysis. Commonly occurring clinical cases are discussed in weekly small group teaching sessions. Learning in small groups is effective and all group members are contributors taking responsibility of the outcomes¹⁶

Adequate secretarial support and Information Technology (IT) is present. However with more IT support, components like Moodle, web conferenc-

ing and internet based learning modules can be included in the program.

Product Evaluation: The results indicate overall achievement of the goals until the compilation of this evaluation report, twelve candidates have completed their training requirements and eleven passed the certifying exams. The top rated rotations by students were Dermatology, Emergency Medicine, and ENT & Orthopedics. The evaluation of the Family Medicine rotation is given in the figure 2. The atmosphere was conducive for learning' 'the rotations were a good experience, well organized with learning objectives provided at all rotations'

The students suggested that 'teaching should be more interactive and more opportunity should be provided to participate with consultants' A successful collaboration between students and the faculty could potentially improve the assessment scheme and possibly have a positive impact on the subsequent knowledge of medical graduates.¹⁷

All students were satisfied with the learning opportunities provided by the faculty, their commitment to enhance student's knowledge and evidence based knowledge. These graduates are well positioned in National and International health centers.

All objectives are met with supervised clinical encounters, case based discussions, weekly core curricular sessions and simulated patient encounters. Institutional facilities support new trends in learning and computers with internet facilities are there, however it was identified that their number needs to be increased, books and journals on different subjects are available in the library. However, books pertaining to Family Medicine are lacking; Hence, request has been placed for other journals like American Academy of Family Medicine

Rotations in Family medicine, internal medicine, psychiatry, OBGYN, pediatrics, surgery, orthopedics, eye and ENT, radiology ER and dermatology contribute to achievement of outcomes.

Students are assessed through MCQ and OSCE held at End of Term in service exam and OSCE. Students were identified deficient in their ability to solve MCQ and communication skills. Improvements were made by weekly MCQ practice and communication skills workshop, by increasing practice encounters and supervised independent clinics

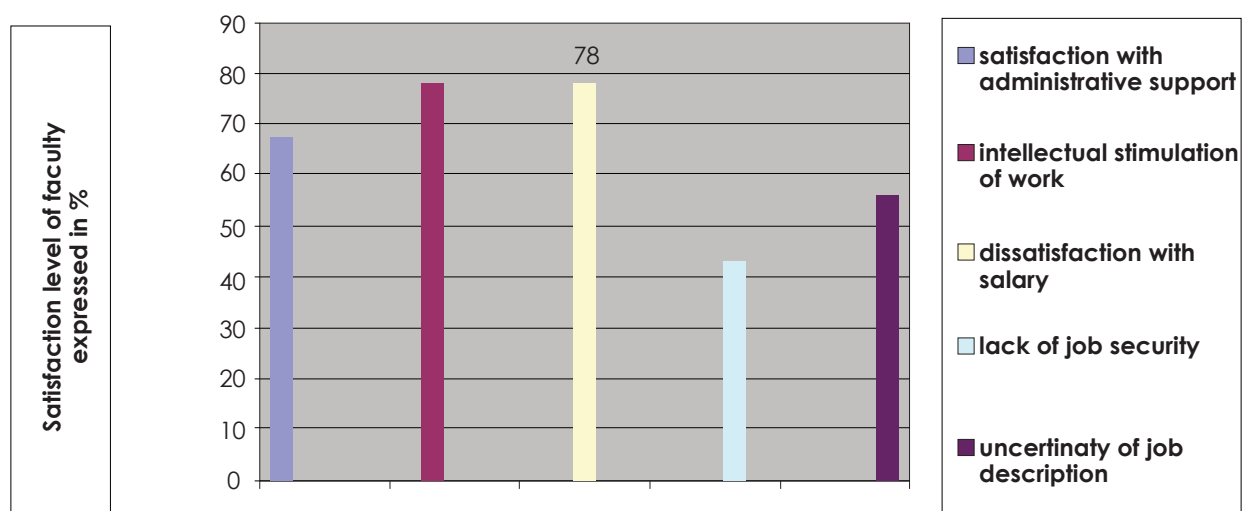
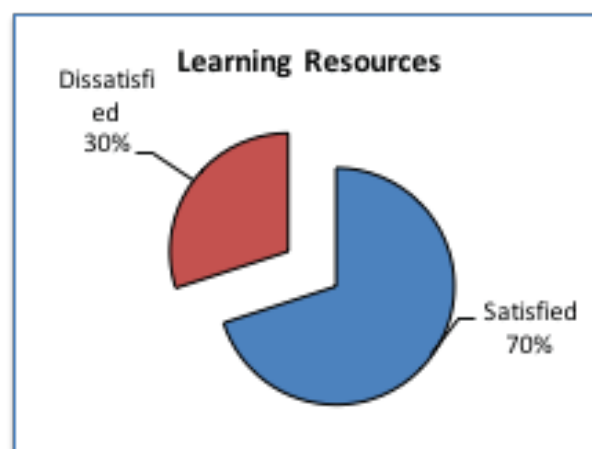
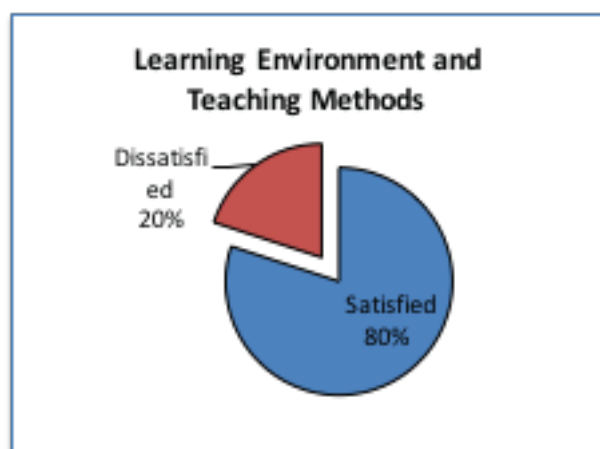
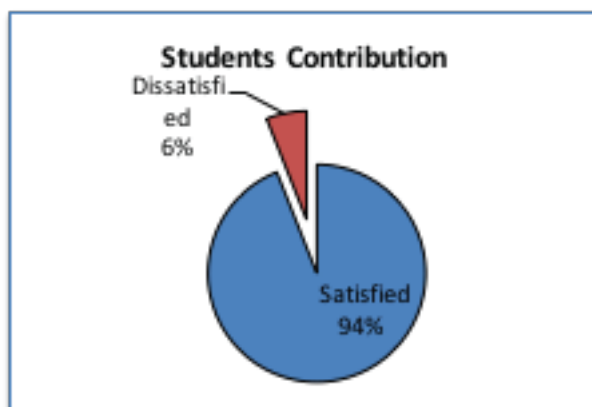
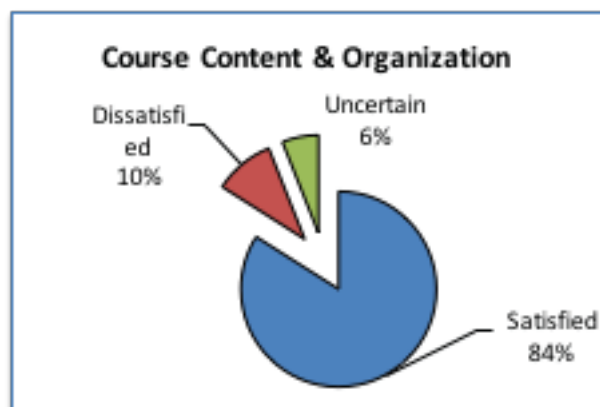


Figure 1: Attributes measured in Faculty survey



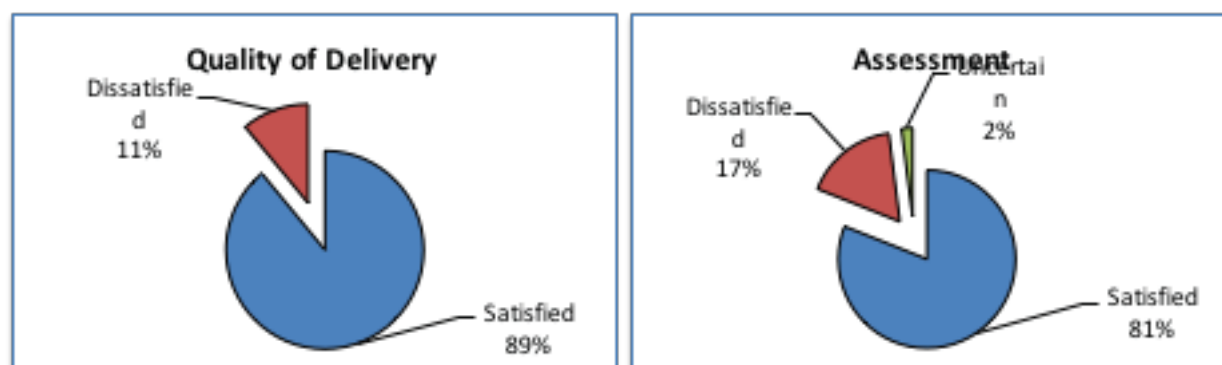


Figure 2: Student's feedback of Family Medicine Rotation

DISCUSSION

Evaluation is an ongoing process where the end is the start of a new beginning and no evaluation is complete and valuable where the decisions are not utilized for further development. Evaluation is useful for quality improvement and accountability.¹⁸ Central activity of higher education is maximizing students' educational development and continuous improvement. The educational institutes should focus on concerns in quality in higher education and its measurement.¹⁹ The results of evaluation should be used to correct the deficiencies in an upgraded manner.²⁰

Barnett emphasized that maintenance and improvement of higher education quality are shared responsibility of every person in the academic institution.¹⁸ Continuous quality improvement and innovations, both are essential in medical schools.¹⁴ The self-assessment report prepared by the program representative team serves as useful guide for further enhancements.

Curricula is revised periodically, and curricula must be responsive to changing values and expectations.¹⁵

Throughout the evaluation process, student's feedback was of paramount significance and is taken seriously to make enhancements. Programs success is best measured by students own perception in learning.²¹

Every effort is taken to ensure that learning and teaching methodologies and assessment methods are in line with the current globally accepted educational methods. Opportunities for one to one teaching are provided to ensure that learner's needs are fulfilled as it allows one to customize teaching to the needs of the learner.²²

Postgraduate diplomas differ in their objectives.²³ Some like DFM have direct clinical focus and supervision. Objectives of the training program are well

defined and teaching strategies include a variety of clinical experiences both at ambulatory and inpatient setting. Weekly case based teaching sessions were the core instructional strategy in Family Medicine rotation. Group discussions are valuable in education for students, and purposeful group discussions can create firm foundations.¹⁶ Assessment is carefully planned because of its educational impact as students tend to focus on what they believe will be assessed.²⁴ An important part of evaluation is to determine impact of training on trainees, which can be determined by analyzing the students' performance through their progress in end of term exam over the two years.²⁵ A 12 station Objective Structured Clinical Examination (OSCE) is conducted at the end of each term with 10 minute encounter at each station in accordance of an average consultation time of approximately 10 min.^{26, 27}

The AMEE evaluation guide no: 29 Evaluating Educational programs recommends that after analysis, findings should be disseminated to the concerned; so that any further educational decision, are made accordingly.²⁸

Initial evaluation results submitted to QEC were reviewed by an assessment team, which highlighted some shortcomings. The identified deficiencies were sent to the program director; the deficiencies were worked on and suggested improvements were made. As Musal has suggested that the improvements made must be forwarded to the relevant educational committee before implementation.²⁹

Initially the numbers of rooms allocated to Family medicine were insufficient for the number of faculty members, which hampered the office work. During the past year, the space has been re-designed and additional offices have been created for work, new computers with internet facilities have been added for smooth functioning of the program

The diploma has been successful; there is continued

interest of trainees, improved performance and employment of trainees in national and international health facilities.

After preparation of the evaluation report and before going for print in consideration of the needs identified by the faculty an ultrasound machine has been installed in the primary care facility.

CONCLUSION

The diploma in Family medicine program provides comprehensive structured training to family practitioners. Its evaluation is important for further improvement and the CIPP format has provided a holistic view encompassing opinions of students and faculty. The commitment of the faculty and collaborative teamwork has contributed to its success.

This evaluation report addresses to what extent the objectives have been met and how the processes are in place for achievement of the product. It provides suggestions for further improvements and can serve as a useful guide for policy makers to streamline resources for quality improvement.

Limitations: The sample size is small however; the results of the evaluation give some information about the program and identify the needs for the future.

Suggested enhancements: IT components can be included in the program like Moodle, web conferencing and internet based learning modules. The faculty has suggested 'Set-up of minor OT & Ultrasound Facility in the clinic' this will not only increase patient care but will enhance onsite training as well.

Suggestions for improvement of the course by Students: 'teaching should be more interactive and more opportunity should be provided to participate with consultants' Web based programs encourage independent and active learning.³⁰

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