ORIGINAL ARTICLE

Developing of a Preliminary Framework for Faculty Development Programs for Malaysian Medical Lecturers

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ABSTRACT

Introduction: It is critical to define an exact domain for faculty development programs (FDPs) to aid medical lecturers' personal and professional development. However, it is uncertain whether such a domain exists in Malaysia. This research aims to propose FDPs domains and incorporate the findings into a preliminary framework for FDPs in public Malaysian medical schools. **Methods:** A total of 30 respondents participated in this study using a criterion-i sampling strategy. Using a qualitative approach, the data was gathered through relevant literature searches and focus group discussions and then distributed to experts for consensus using a three-round Delphi technique. Inductive thematic analysis technique was utilised to analyse the data using ATLAS-ti software. Inclusion criteria: medical lecturer with at least five years of experience; experienced with FDPs and have participated in at least one FDPs. **Results:** The result shows nine domains with 19 sub-domains; student management (1 sub-domain), curriculum management (2 sub-domains), e-learning, (without sub-domain) teaching and learning method (6 sub-domains), leadership (1sub-domain), research (2 sub-domains), assessment (3 sub-domains), communication (2 sub-domains) and program evaluation (2 sub-domains). Following the validation of the framework, the findings were incorporated into a preliminary framework known as the medical lecturers FDPs, and a preliminary FDPs domain was agreed upon. **Conclusion:** : As a result, this will be an effective instrument for guiding FDP service providers in the development of FDPs strategies for medical lecturers.
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Keywords: Faculty development programs (FDPs), Preliminary framework, Pedical lecturer, Public Malaysian medical school, Qualitative study

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INTRODUCTION

Faculty development programs (FDPs) is regarded as a continual process to enhance educators' competence in various disciplines such as subject content knowledge and pedagogy skills. Faculty development refers to a variety of activities aimed at assisting academicians in developing professional skills necessary for carrying out their teaching, research, and administrative responsibilities in medical education (1). In the context of higher education institutions, it not only focuses on the teaching domains but also enhances students' guidance and research competency (2,3,4). The emergence of FDPs in the context of medical education is to ensure patient safety. Amongst areas of the FDPs in such group are teaching, curriculum development, personal development and leadership (5) in order to enhance their pedagogy, management and research skills (6). Malaysia's Ministry of Higher Education has set a target of 250,000 international students by 2025 (7). For this reason, training competent, high-quality and skilled faculty members, such as medical lecturers, is crucial. In this regard, Malaysia Medical Council (MMC) has produced a guideline in managing continuous professional development (CPD) for medical teachers approved by the Council on 16th June 2020. The outlined framework acted as a general mandate to foster professional development for such a group. Since it is a general framework, some organisers had faced some

difficulty with designing the desired FDPs specifically for their groups.

Therefore, the implementation of FDPs is grounded on the faculty's assumptions instead of being navigated by a standardised framework. Thus, this notion has led to numerous approaches and frameworks of FDPs for such groups. As a result, the existing FDPs comprise regular activities in lectures. Furthermore, no data on the framework and specific framework to guide the FDPs performed by Malaysian public medical schools has been released. The current study aims to investigate the framework of FDPs and combine the findings into an acceptable preparatory framework for medical lecturers in order to fill this research gap. In this regard, the preliminary study is a primary formulation of the FDPs framework for faculty development programmes for medical lecturers in Malaysia. It implies that additional research is required to review or evaluate the quality of the findings. Thus, the following research questions were developed: "What is the Framework of the FDPs?" and "What is the pattern of the preliminary Framework proposed in the context of Malaysian medical schools?"(What is the preliminary framework pattern proposed in the context of Malaysian medical schools?

In general, the principles of FDPs are as follows. (i) An FDP begins with a clear vision and mission. (ii). It can maintain the right perspective. (iii). It involves good networking. (iv). It exhibits high integrity. Lastly, (v) faculty members are motivated. The topics of discussion are (i) communication skills, (ii) teaching skills, (iii) curriculum development, (iv) research methodology, (v) problem-based learning (PBL), (vi) development of a multiple-choice questionnaire (MCQ) or an objective structured clinical examination (OSCE), (vi) assessment skills, (vii) new educational strategies, (viii) utilisation of information and communication, and (ix) stress management (6). These topics can be addressed through workshops, seminar series, courses, longitudinal programmes (e.g., fellowships), and individualised feedback.

Undoubtedly, FDP is crucial for the cultivation of personal and professional development (8) of faculty members because it can help participants master personal awareness and group facilitation skills, thus contributing to their competence (9). Furthermore, it can improve knowledge and skills in relation to the principles of relationship-centred care (10). All advantages will contribute to the ability to manage educational aspects in an appropriate manner. Many faculty members reported that the implementation of new instructional strategies and their tools contributed to a positive learning environment(11). Thus, implementing FDPs is considered a critical mechanism for (i) teaching and learning (12), (ii) enhancing personal and professional development (8,13);(iii) cultivating motivation (13) critical reflection, self-confidence as a role model, knowledge and pedagogical skills (14), the design of a curriculum and competence in conducting research (15) among faculty members.

To design effective FDPs, recognising the real needs of faculty members is of mounting importance. One of the helpful methods for understanding this notion is creating a special framework for FDPs that considers the real potential of participant opinions. A similar study has been done to address the framework of FDP for Indonesian medical lecturers, which consisted of three components, namely, (i) content, (ii) process and (iii) components of the educational system that have an impact on the implementation of faculty development (16). While an Indian scholarly in discussing the needs of FDPs has recommended that the FDPs can be enhanced through 1) articulating a single policy on medical education; 2) focusing on quality assurance and accreditation; 3) providing support for Medical Education centre; 4) recognition for the contributor of faculty developer; 5) incorporation of teaching; and 6) enlarging the scope of faculty development to health professional education (17). In summary, FDPs are widely used to enhance teachers' competence in delivering teaching inputs (18). However, less information is provided on the framework of FDPs in medical education in the Malaysian context. Moreover, the literature has addressed the framework of FDP and its related framework in a satisfactory manner, which is consistent with the present study, which is to propose FDPs domains in the medical education context.

MATERIALS AND METHODS

Study design

This study applied the qualitative approach. This bottom-up method is significant to develop a theory, model or/ and framework. To complete the study, the researcher analysed literature reviews and conducted six focus group discussions (FGDs) involving 30 participants from six public medical schools in Malaysia. Then, the proposed preliminary framework was referred to expert panels for consensus through the three-round Delphi technique. All feedback received was taken into consideration.

Literature

The review was conducted thoroughly to explore the faculty development framework of medical schools presently addressed in the literature. We used the PRISMA framework (19) as a guide to make the process easier (see Figure 1) (19). This assignment was performed using the following steps: (i) articulate the search strategy, (ii) recognise significance studies, (iii) examine the data and (iv) report the results.

Articulate the Search Strategy

PubMed and Google Scholar databases were used

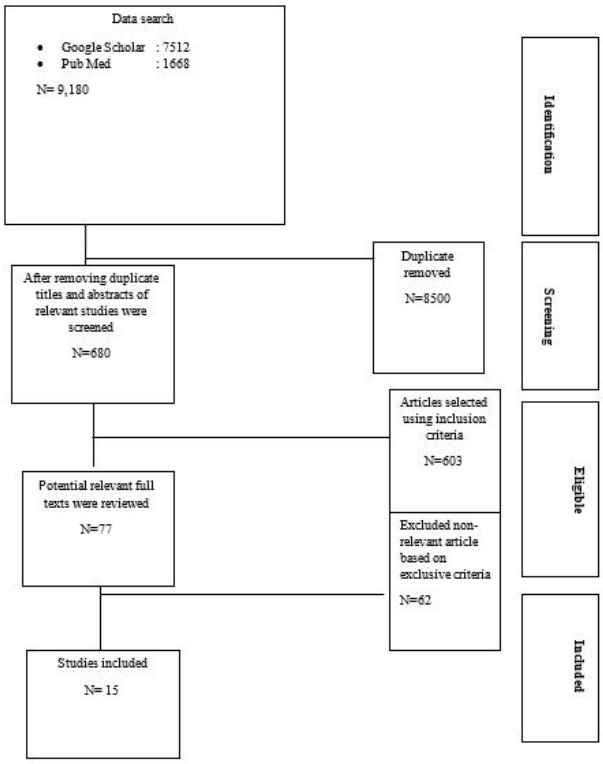

Figure 1: PRISMA flow for database search of studies

to search the desired data by applying four keywords which were: 1) faculty development programs, 2) medical lecturers, 3) medical education and 4) models or Frameworks. Only journal which was published in English is included in the searching process.

Identifying significance Studies

Identification of the studies was based on the following criteria: 1) must be in English; 2) focuses on faculty development programs, and 3) involving medical lecturers.

Analysing the Data and Reporting the Results

At this stage, we repeated reading all the collected articles then compiled them based on the similarities and differences. We ensured that all of the articles met the inclusion criteria. Data analysis began with reduction, which included summarising, selecting and focusing on important issues, and removing unnecessary information, followed by the application of codes to specific aspects. Data were gathered from chosen publications using Steinert's Framework (14). Diagrams, tables, and narrative texts were used to present the results.

Focus Group Discussion (FGD)

Interviewees were selected based on the following criteria: 1) a participant must be a medical lecturer with at least five years of service; 2) experienced in FDPs, and 3) with a medical background. Justifications of these criteria were their involvement and contribution of rich data to the FDP (2,19). Training lecturers were excluded from the study. The number of participants can range from 5 to 25 due to the nature of the study (2). For this reason, a total of 30 participants were selected. Since the respondents were volunteers, the researchers took 30 participants in case any dropped out during the data collection process. However, the actual sample size in qualitative research is subject to saturation point: when this is reached, the sample size is adequate.

Research tools

A tape recorder was used to record the interview sessions to ensure that information was preserved with the consent of the interviewees. The data collection process lasted two months (15th March 2019 to 6th May 2019).

Data collection method

FGDs were conducted based on the interview protocol to collect the desired data. Each FGD consisted of five members and lasted for 40 minutes to one hour in a study location. The interviews ended at focus group number four when a saturation point was achieved. To confirm the achievability of the saturation, the FGD was continued for another two sessions. In summary, a total of six FGD sessions verbatim emerged throughout the data collection process. All the data collection method was performed in accordance with the guidelines and regulations proposed in this study. In this part, participants were asked the following question; 1) What are the current practices of FDP in your institution? 2) Could you tell the scope/domains of the task right now?, 3) Could you tell me the current trend of FDP? and 4) What challenges do you face in delivering the services?(refer Appendix A).

Data analysis

The inductive thematic analysis approach was applied to analyse the obtained data. In the data analysis, we used six steps: familiarising, coding, creating themes, reviewing themes, defining themes, and writing up. The verbatim text was familiarised by reading it line by line and sentence by phrase to find the similarities and differences. Coding is a set of code was proposed after considering concepts and ideas related to the areas of FDPs. Generating themes. Finally, the data interpretation was conducted, and the themes and sub-themes were produced according to similarities and differences in concepts, ideas and terminologies. Reviewing themes, where the researchers deem that such a classification is connected with the research objective through thematic analysis (20,21). The data was categorised into emergent topics and regrouped according to similarities and contrasts. When it came to defining themes, the data was regrouped until no new categories arose. Finally, when the data was received and placed into the FDPs Framework, a write up was completed.

Delphi technique

The proposed framework was sent to expert panels for approval on the components of FDPs. The three-round Delphi technique was applied to evaluate the relevance

of the content of the Framework. A set of questionnaires and the proposed framework were emailed to the expert panels with the request that the items be evaluated on a 5-point scale ranging from 1 to 5 (1=Extremely irrelevant and 5 = Extremely relevant). The expert panel consisted of five medical lecturers and five senior clinicians. The inclusion criteria for expert panels for the Delphi technique procedure are that they must be a medical lecturer with at least five years of experience; experienced with FDPs, and have participated in at least one FDPs. Apart from that, they must have expertise in qualitative study.

Delphi round one

The expert panels were given an invitation letter, a preliminary questionnaire, and an informed consent letter in the first round. They were asked to check and evaluate the framework and items on a 5-point Likert scale ranging from I (extremely not important) to 5 (extremely important), as well as add, change, or remove any Framework and items considered suitable. The mean and percent agreement (rating very important or important) were calculated to determine the level of agreement for each framework. Following that, the results were utilised to update the framework and determine its suitability for round two of the Delphi technique.

Delphi round two

In the second round, the expert panels were asked to go over the submissions again and rate them on the same scale. Its goal was to reach a consensus among them and then evaluate the resulting data to assess the level of consensus.

Delphi round three

The third-round aims were to seek a consensus and narrow the range of variances in judgement among the panels. Panels were requested to evaluate their feedback and respond once more using the same rating scale, and add any remarks if necessary. After the third round, the data were analysed and the median range calculated. Results from the Delphi third round were used to answer the research question.

Data analysis

The framework's significance was measured using the mean score. Meanwhile, the percent agreement for each item was calculated using the proportion of expert panels that rated the content as extremely important or important. The major statistics used in Delphi studies are measures of central tendency (means, median, and mode) and level of dispersion (standard deviation and inter-quartile range) in order to present information concerning the collective judgments of respondents (22).

Trustworthiness in a qualitative study

Credibility, transferability, dependability and confirmability (23) are important items for trustworthiness in a qualitative study. To produce credibility of the data, we applied environmental triangulation (2). Since the sources of data come from a variety of times and locations, the data obtained was more credible, which increased the overall authority of the study. The thick description approach was used to achieve transferability (25). In this regard, the data presented was on what and how FDPs were implemented in Malaysia and how it was formulated in a preliminary Framework. An in-depth description supplied by the researcher allowed readers to form their own personal conclusions about the outcomes of various situations or any similar scenario (25). Cohen's kappa coefficient of agreement was used to determine the dependability of the findings. We have established the degree level of the coding agreement, and coding has been carried out by field experts (26). This was accomplished by comparing the list of themes and sub-themes to the operating definition in order to determine its dependability. The rating given was 0.87, which is regarded as good (a value of approximately 0.75 indicates strong agreement, 0.4 to 0.75 is average, while a value lower than 0.4 suggests low agreement (27). The audit trail technique was used to verify confirmability. This strategy was used by requesting that people outside of the research evaluate the description in order to assess its credibility (28). The investigator has clearly indicated his worries about various areas in the audit trail, such as the purpose of the current investigation, which was motivated by curiosity and a keen interest in FDPs among Malaysian medical lecturers.

RESULT

Profile of articles

In the literature review, a total of articles relating to the framework of FDPs were examined. The search yielded 9,180 titles from two databases, Google scholar (7512), and Pub Med 1668. After applying inclusion and exclusion criteria, 15 articles were chosen for review. These articles had highlighted five domains of FDPs, which are teaching, 11 articles, assessment (4), soft skills (5), curriculum management (1) and research methodology (3).

Profile of Delphi expert panels

In total, ten expert panels took part in the two rounds of the Delphi study. The majority of the participants (60%) were men, with the remaining 40% being women. In terms of job experience, half of them had more than 10 years, while the remainder had less than ten years. Nine of the ten participants (90%) were medical teachers, while one (10%) was a non-medical lecturers educator (Table I).

Profile of the FGD participants

A total of 30 participants from six medical schools participated, including 21 (70%) males and 9 (30%) females. All participants have a medical background

Table I: Profile of the Delphi expert panels

Item	Round 1 (n=10)	Round 2 (n=10)	Round 3 (n=10)
Gender, n (%)			
Male	6 (60%)	6 (60%)	6 (60%)
Female	4 (40%)	4 (40%)	4 (40%)
Working experience (years) n (%)			
> 10	5 (50%)	5(50%)	5(50%)
<10	5(50%)	5 (50%)	5 (50%)
Background, n (%)			
Medical teacher	9 (90%)	9 (90%)	9 (90%)
Non-medical Educator	1 (10%)	1 (10%)	1 (10%)

and were of Malay ethnicity. The emergence of the Malay ethnic participating in the study because most of the medical school lecturers are Malay. The majority of the participants have rendered service for 5 to 8 years, which is 20 (67%) and 10(33%) more than 8 years.

Findings of FGD

There were nine domains and 19 sub-domains that emerged from the data analysis; student management (1 sub-domain), curriculum management (2 sub-domains), e-learning, (without sub-domain) teaching and learning method (6 sub-domains), leadership (1 sub-domain), research (2 sub-domains), assessment (3 sub-domains), communication (2 sub-domains) and program evaluation (2 sub-domains)

Summary of FGD in communication skill domains *reported that "we were also taught how to communicate well with the various parties-including management, peer and students as well as outside parties…"* (FGD6-13/4/2019). In teaching and learning skill FGD reported that *"Activities related to the teaching methodology are among prominent agenda in FDP. We have learned many topics such as instructional design model, andragogy, pedagogy and others classroom management approach"* (FGD4-19/3/2019). For the E-Learning skill domains, the FGD stated that *"E-learning was one of the enjoyable topics…from there we know the ways to organise e-learning portal, Massive Open Online Course (MOOC) and the ways to conduct online teaching…"*(FGD2-16/3/2019). For the domains in student management skills, FGD stated *"Generally, being a mentor is lecturer's responsibility …all lecturers are requested to join FDP towards how to be a good mentor. In this part we were exposed on principles of mentoring, types of mentoring, how to refer mentees to other parties such as counsellor and Psychiatric department etc."* (FGD4-19/3/2019).

For the student assessments skill domains, FGD found that *"This skill (assessment skills) is among important topics that lecturers to understand, it includes summative and formative assessment. Apart from that, we were taught how to establish a good Multi Choice Questions (MCQ), Single Best Answer (SBA), Objective Structured Clinical Examination (OSCE) and standard setting…"* (FGD5-18/3/2019). For the Research methodology skill domains, FGD reported that *"As a lecturer in higher education, research competence is a basic skill that need to be acquired by all of us in both approaches. I mean qualitative and quantitative approaches. These have been delivered by senior lecturers whether internal or external speakers"* (FGD3-17/3/2019). Lastly, for the curriculum management skill domains, FGD stated that *"Medical curriculum is a dynamic one- thus we need to review it for every five years. We just finished the medical curriculum revision last week. We have made adjustment in term of vision and mission and had put some additional input and ideas that related to the comments as given by our stake holders."* (FGD2-16/3/2019).

Based on the input from literature and FGD, we proposed a framework for faculty development programmes for medical lecturers. Table II shows the proposed domains and sub-domains. It consists of seven domains (student management, curriculum management, e-Learning, teaching and learning method, research, assessment, and communication) and 14 sub-domain (students mentoring and counseling, mentoring curriculum, adult learning, instructional model, problem- based learning (PBL), clinical- based learning (CBL), teaching method, setting objective and learning outcomes, team- based learning (TBL), qualitative and quantitative approach, Multi Choice Question (MCQ), Objective Structured Clinical Examination (OSCE), Essay, international and intrapersonal communication.

Table II: Proposed domains and sub-domains

Domain (7)	Sub domain (14)
1.Student management	1.Students mentoring & counselling
2.Curriculum management	2.Mentoring Curriculum
3.E learning	
4.Teaching and learning method	3.Adult learning
	4.Instructional model
	5.Problem based Learning PBL
	6. Clinical based learning (CBL)
	7.Setting objective and learning outcomes
	8.Team based learning
5.Research	9.Qualitative and Quantitative study
6.Assessment	10.Multi Choice Question (MCQ)
	11. Objective Structured Clinical Examination (OSCE)
	12.Essay
7 Communication	13.Interpersonal communication
	14.Intrapersonal communication

Profile of the Delphi expert panels

The two rounds of the Delphi study involved ten expert panels in total. Males (60%) and females (40%) were among those who took part. In terms of job experience, half of them had more than 10 years of experience, while the other half had five to ten years. Nine out of ten (90%) were medical lecturers, with one (10%) being a non-medical instructor (Table III).

Table III: Profile of the Delphi expert panels

Items	Round 1 (n=10)	Round 2 (n=10)	Round 3 (n=10)
Gender, n (%)			
Male	6 (60%)	6 (60%)	6 (60%)
Female	4 (40%)	4 (40%)	4 (40%)
Working experience (years) n (%)			
< 10	5 (50%)	5(50%)	5(50%)
5<10	5(50%)	5 (50%)	5 (50%)
Background, n (%)			
Medical lecturers	9 (90%)	9 (90%)	9 (90%)
Non-medical Educator	1 (10%)	1 (10%)	1 (10%)

Delphi round One

Seven domains and 14 sub-domains have been forwarded to expert panels for evaluation. The technique entails asking the expert panels to examine and rate the suggested domains and items of such a module using a 5-point Likert scale. In addition, they were to provide feedback on the usefulness of such content by adding, changing, or eliminating them as required. As an outcome, the items' mean and portion of agreement value were 2.3 (58%) for the sub-domain of student mentoring and counselling, 5.0 (90%) (Mentoring curriculum), 4.7 (85%) (e-learning) 4.5 (78%) to 5.0 (90%) (Teaching and learning method), 5.0 (90%) for research, 23.3 (58%), 4.5 (88%) for assessment and 4.5 (88%) to 4.7 (88%) (Communication) (Table IV). Apart from that, there was one domain, and two additional sub-domains were suggested by the panels. The new domain is leadership (domain 5). Curriculum review and change management has been suggested to curriculum management (domain 2) and leadership (domain 5). The results were then utilised to update the questionnaire and set the stage for Delphi round Two.

Table IV: Delphi round One

Domain (7)	Sub domain (14)	Delphi Study Mean	Delphi Study Agreement (%)
1.Student management	1.Students mentoring & counselling	2.3.	58
2.Curriculum management	2.Mentoring Curriculum	5.0	90
3.E learning		4.7	85
4.Teaching and learning method	3.Adult learning	4.5	88
	4.Instructional model	4.5	88
	5. Problem based learning (PBL)	5.0	90
	6. Clinical based learning (CBL)	4.5	88
	7.Setting objective and learning outcomes	4.5	88
	8.Team based learning	4.5	88
5.Research	9.Qualitative and Quantitative study	5.0	90
6.Assessment	10.Multi Choice Question (MCQ)	4.5	88
	11. Objective Structured Clinical Examination (OSCE)	4.5	88
	12.Essay	4.5	88
7 Communication	13.Interpersonal communication	4.5	88
	14.Intrapersonal communication	4.7	88
***Leadership (suggested by panel round 1)**	***Change management (suggested by panel round 1)**		
	***Curriculum review (suggested by panel round 1)**		

Delphi round Two

At this stage, the framework consists of seven domains with 16 sub-domains; student management (1 sub-domain), curriculum management (2 sub-domain), e-learning (without sub-domain), teaching and learning method (6 sub-domain), leadership (1 sub-domain), research (1 sub-domain), assessment (3 sub-domain), and communication (2 domain). All the mean and percentage are maintained in this round. Apart from that,

one domain and two sub-domains were introduced, which are programme evaluation for a new domain, and internal and external programmes for sub-domains (Table V). While the quantitative study was becoming a specific sub-domain. The result was then used to modify the questionnaire and established for Delphi round Three.

Table V : Delphi round Two

Domain (7)	Sub domain (16)	Delphi Study	
		Mean	Agreement (%)
1.Student management	1.Students mentoring & counselling	2.3.	58
2.Curriculum management	2.Mentoring Curriculum	5.0	90
	3.Curriculum review	4.7	85
3.E learning		4.7	85
4.Teaching and learning method	4.Adult learning	4.5	88
	5.Instructional model	4.5	88
	6.PBL	5.0	90
	7.CBL	4.5	88
	8.Setting objective and learning outcomes	4.5	88
	9.Team based learning	4.5	88
5.Leadership	10.Change management	**5.0**	**90**
6.Research	11.Qualitative study	5.0	90
7.Assessment	12.Multi Choice Question (MCQ)	4.5	88
	13.(OSCE)	4.5	88
	14.Essay	4.5	88
8 Communication	15.Interpersonal communication	4.5	88
	16.Intrapersonal communication	4.7	88
Program evaluation	*** Internal program (department program)**	4.5	88
	External program (Faculty/school program)		
	(Suggested by panel round 2)		
	***Quantitative study (suggested by panel round 2)**		

Delphi round Three

At this stage, one domain (program evaluation) and two new sub-domains (internal and external programme) were added-on at this stage. It became nine domains and 19 sub-domains. The previous sub-domain mean and percentage are minted. While mean for sub-domain of internal and external programmes were 4.5 respectively. The final framework, therefore, consists of nine domains with 19 sub-domains; student management (1 sub-domain), curriculum management (2 sub-domains), e-learning, (without sub-domain) teaching and learning method (6 sub-domains), leadership (1 sub-domain), research (2 sub-domains), assessment (3 sub-domains), communication (2 sub-domains) and program evaluation (2 sub-domains) (Table VI).

Table VI: Delphi round Three- The final framework of framework for faculty development programs for Malaysian medical lecturers

Domain (9)	Sub domain (19)	Delphi Study	
		Mean	Agreement (%)
1.Student management	1.Students mentoring & counselling	2.3	58
2.Curriculum management	2.Mentoring Curriculum	5.0	90
	3.Curriculum review	4.7	85
3.E- learning		4.7	85
4.Teaching and learning method	4.Adult learning	4.5	88
	5.Instructional model	4.5	88
	6.Problem based learning (PBL)	5.0	90
	7. Clinical based learning (CBL)	4.5	88
	8.Setting objective and learning outcomes	4.5	88
	9.Team based learning	4.5	88
5.Leadership	10.Change management	5.0	90
6.Research	11.Qualitative study 12. Quantitative study	5.0	90
7.Assessment	13.Multi Choice Question (MCQ)	4.5	88
	14. Objective Structured Clinical Examination (OSCE)	4.5	88
	15.Essay	4.5	88
8 Communication	16.Interpersonal communication	4.5	88
	17.Intrapersonal communication	4.7	88
9.Program evaluation	18.Internal program (department program)	4.5	88
	19.External program (Faculty/school program)	4.5	88

DISCUSSION

The aim of the study was to propose a preliminary framework for faculty development programmes for medical lecturers in Malaysia. Although the study results are not too idealistic and well-covered, its findings have rendered it interesting and useful for the Malaysian medical lecturers. Importantly, the research objective, which was to define a preliminary framework for FDPs for medical lecturers in Malaysia, has been successfully achieved. This is because it consisted of the basic needs of FDPs (3,18) for such a group. Apart from that, it was developed after some local culture features of the FDPs actors were considered. The emergence of nine domains and 19 sub-domains of the FDPs was a well-appreciated outcome from the field of medical education. Unlike Indonesian medical lecturer's FDPs (16), the Malaysians' medical lecturer framework was clustered into nine domains and 19-subdomains. Dividing domains and sub-domains in a separate manner will make the framework is user-friendly. Importantly, the components of the suggested framework are aligned with the role of FDPs for Malaysians' medical lectures (16) .

Presently, no study investigating the framework of FDPs in the context of public medical schools in Malaysia has been conducted. As a result, the current study contributes to closing this research gap. The emergence of these domains and sub-domains is consistent with Mukhtar and Chaudhry (29), who reported that communication skills, teaching skills, curriculum development, research methodology, PBL, assessment skills, and information technology were areas of the FDP in medical education. However, the findings of the present study emerged from the natural setting, where a grounded approach was used to gather the desired data. Apart from that, the usage of an inductive approach is another strength of the study. The bottom-up method is a prominent approach in developing a theory, conceptual, or framework of a studied content.

The emergence of teaching and learning, e-learning, student management, curriculum management, research methodology and assessment skills were considered consistent with the result of previous studies. In other words, these domains are common among educators, including medical teachers. This similarity may be due to the nature of the said domains. That is, they are fundamental features of a good educator (10). Evidence has shown that both types of communication skills are crucial for medical lecturers (10) to boost personal and professional development. In this regard, educators who are mastering personal awareness will potentially be good teachers from the students' perspective. One of the probable reason is that educators with excellent communication skills are able to establish a substantial relationship not only with students but also with colleagues and top management. Therefore, recognising communication skills as a component of FDPs for medical lecturers is well-timed.

Curriculum management skills is a critical point for medical lecturers because a comprehensive understanding of the curriculum can be beneficial for curriculum design (10) and academic leadership. A possible reason is that such a domain has become more important and closely related with the current issues of the nation. Thus, managing the curriculum was considered as one of the frameworks in FDPs. Moreover, excellence in assessment, instructional design, and E-learning can enable teachers and students to interact in a positive learning environment. Therefore, these components are crucial and important to achieve the vision and mission of organisations.

All the frameworks that appeared in the final preliminary framework represented the broad characteristics of a good educator, which were recognised as domains and sub-domains. Especially, it has covered personal, professional attributes and pedagogical skills. Such aspects constitute the important domains of an excellent teacher (30). Thus, the proposed framework, which consists of similar domains, can be an effective mechanism to bridge the gap between a good medical teacher and the domains of training that should be offered through FDPs. Therefore, the proposed framework can eventually serve as a compact groundwork for the promotion of professionalism among medical lecturers. The current framework of the FDPs was also customised to the context of local values and culture, which is an important aspect to ensure that the activities planned are feasible with the target group, in this case, Malaysian medical lecturers.

Interestingly, the framework of the FDPs gained that were incorporated in a meaningful framework differed from those in the current literature. Previous studies have addressed the similar areas but from different perspectives. For instance, a study developed a Framework that focused on the competency of academic physicians. This framework aimed to highlight the competency that should be acquired by medical educators. However, the current framework emphasised the means for enhancing such competencies. Furthermore, the framework incorporated a long-term vision. Data were collected from activities that occurred over five years (2014 to 2018). Moreover, the participants were of mixed backgrounds, such as juniors and seniors in their academic careers. Therefore, the information gained actually represented the nature and values of both generations. For this reason, the current Framework is deemed suitable as a basis for long-term development not only for junior but also for senior medical lecturers. This finding is consistent with the function of the framework itself: to serve as a guide in facilitating related work. Finally, this framework has considered a broad context by subjecting the presence of the Framework to patient welfare.

CONCLUSION

The results of the study have appropriately provided the preliminary framework of FDPs required for public medical schools in Malaysia. Consistent with the MMC guideline for which to promote CPD among medical lecturers, the proposed framework is hoped to become a basic model of FDPs in medical education. The nature of its development, which used the bottom-up approach, is unique, which makes it different from other models. Furthermore, the current study contributed to the body of research on the framework of FDPs for Malaysian medical lecturers.

Recommendations

Despite the important discovery, the study has limitations. Firstly, since this is a qualitative study, the outcomes cannot represent all frameworks of FDPs for medical lecturers due to the limited sample size. Secondly, data were gathered only from limited and documented activities. Thus, the study may not represent the actual framework of FDPs implemented in private universities is possible. Thirdly, the participants of the study were limited to only the Malay ethnic. Therefore the study may not represent the actual population of medical lecturers in Malaysia. In consideration of these limitations, the study recommends that further research should invite all medical lecturers in Malaysia, such that potential findings can be compared to those of the present study. Secondly, the study further suggests an in-depth exploration of other possible activities in terms of faculty development, which may remain undocumented in any format. In so doing, understanding the real framework of FDPs in universities can be improved. Lastly, the Framework should be quantitatively verified to render it reliable for medical lecturers worldwide.

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Ethics approval

The study was approved by the Ethics committee of School of Medical Sciences of Universiti Sains Malaysia (USM/JEPeM/18120790).

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