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Survey of opinions on competencies standard in dentistry for new dental graduates

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Abstract

Objective To assess the opinions of full-time faculty staffs in clinical departments and dental practitioners on competencies standard in Dentistry for new dental graduates of Chulalongkorn University

Material and methods This survey is a cross-sectional descriptive study. The subjects were all 101 full-time faculty staffs in 10 clinical departments of Faculty of Dentistry, Chulalongkorn University and 276 random sample of dental practitioners currently practiced both in governmental and/or in private sectors in Thailand. Competency statements of clinical competencies from competency standards of 3 dental schools in the United States of America were adapted, translated and used to construct a questionnaire. The questionnaire consisted of 15 major competencies that included 115 statements. For each statement, a response was requested on a Likert-like 5 point scale and open-ended opinions. The validity of the questionnaire was reviewed by eight experts in dentistry. The reliability of the scale was evaluated using its internal consistency as an indicator. The cronbach coefficient was 0.9745. The measurement was performed once in each group. The obtained data were analyzed using descriptive statistics

Results The response rates of dental faculty staffs and dental practitioners were 85% (86/101) and 53.3% (150/276) respectively. The mean $\pm$ SD for 115 competency items ranged from 2.61 $\pm$ 1.09 to 5.0 $\pm$ 0.00 for faculty staffs and 2.61 $\pm$ 1.10 to 4.93 $\pm$ 0.32 for dental practitioners. The competency items rated as mostly agreed : agreed : moderately agreed were 47(40.87%):57(49.57%):11(9.56%) by faculty staffs and 47(40.87%):63(54.78%):5(4.35%) by general practitioners. There were relative agreement between both groups except for 3 major competencies : occlusal therapy, orthodontic therapy and community involvement. Open ended opinions revealed various perspectives towards the statements. Additional standard competencies not being in the questionnaire and recommendation

for curriculum improvement were also stated. The results and opinions were instrumental for the curriculum reform of the Faculty of Dentistry of Chulalongkorn University.

Conclusion This study surveyed the opinions of faculty staffs and dental practitioners towards the proposed clinical competencies for new dental graduates. From this survey, statements that were rated highly by both faculty staffs and general practitioners could serve as the basis for a core set of statements to describe the abilities of undergraduates. Statements that received less agreement needed to be further studied whether they are suitable to be used. Competencies statements in other domains that were not included in this study should be established and discuss to find consensus.

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Key words: *Competencies Standard; new dental graduates*

Introduction

In 1940, Chulalongkorn University founded its Faculty of Dentistry, the first dental school in Thailand.[1] Since then, the faculty has continuously developed its dental curriculum. The fifth major curriculum development was done in 1986 and there were only minor improvements afterwards.[2] A formative evaluation of the curriculum was done in 1992.[3] The evaluation showed that the curriculum had too many subjects for dental students to comprehend and the sequences of a number of subjects being taught might not allow students to form coherent and systematic perception and ideas. Subsequent summative evaluation tried shortly afterwards failed to materialize probably due to flawed strategic planning and administration of the evaluation coupled with poor cooperation of the stakeholders.

Demographic and society shifts, changes in the structure and delivery of health care, changing patient expectations, health care reform, hospital accreditation, changes in the funding of health care services are external factors and the sources of stimulus to evaluate and reform the curriculum.

A variety of methods have been used to review the curriculum. One way is to use external yardsticks as a measure of the adequacy of the curriculum. In western countries, especially the United States of America, the dental education has been shifted towards competency-based model. The changes started in the 1980s. The 1984 report of the Pew Health Professions Commission[4] and the 1995 Institute of Medicine study[5] proposed reformation of curriculum content and modernization of teaching/learning methods. The recommendations argued for a learning environment that encouraged students to learn collaboratively, provided students with opportunities to practice application on newly acquired biomedical information by solving simulated or real patients problems, fostered close and longitudinal contact between instructors and small groups of students, and provided learners with continuous contact with patients, and their health problems throughout the educational program.

The competency-based curriculum for dental profession derived from the idea that dental curricula should be characterized in term of their impact on students, expressed as competencies, rather than discipline-based content. Instructional and behavioral objectives with content- and discipline-specific emphasis could be reframe into a new integrated curriculum design that would reinforce the relationship

between the basic biomedical, clinical and behavioral sciences.[6] The goal of an academic program based on competency-based educational principles was to provide students with learning experiences that allowed the integrated development of the multiple components of competence, rather than the isolated development of subordinate skills, with assessment focusing on the student's ability to perform the generalized competency.[7] The first dental school to develop competency statements was the University of Puerto Rico in 1987/88. Since then, about half of U.S. dental schools have developed sets of competencies to be used in various purposes. The American Association of Dental Schools (AADS) took the lead in co-ordinating competency-based education in 1994. The House of Delegates adopted a position that curricula would be discussed in terms of competencies rather than continuing to develop the curriculum guidelines based on specific disciplines.[8] In 1997 the House of Delegates approved a prototype set of competencies for the new dentist.[9] In Canada, the National Dental Examining Board of Canada (NDEB) developed the competencies document as an examination blueprint for certifying graduates of accredited faculties of dentistry in Canada.[10] And also Thematic network on European Dental Education provided a list of basic clinical competencies required of all newly graduated and/or newly registered dentists in the European Union.[11]

The construction of competency-based dental curriculum is based on developing competency statements for dental graduates.[12] To develop competency statements, careful delineation of these components of dental practice is the first and most critical step in designing a competency-based curriculum. Variety of techniques have been used to identify and validate competencies including expert panels, practitioner surveys, job and task analysis, critical incident techniques, the Delphi process and health care needs.[13] These techniques, however, have some methodological problems, or take long survey period, and/or are costly to develop without significant advantages to the approach used in this study.

Direct adoption of competencies standards from western countries may neglect many important factors influencing the success of a dental curriculum to establish high standards of dentistry, to advance the science, and to serve Thai society. One of those factors is real experiences of dental educators and dental practitioners in the context of Thailand. More than fifty years of experiences in dental education and of dental practices passed on to current dentists in Thailand would be invaluable for the adaptation of western competencies standards. This study surveyed the opinions of Thai dental educators and dental practitioners that reflect their experiences and expectations. The result of this survey was beneficial in the curriculum development at the Faculty of Dentistry, Chulalongkorn University.

To survey the opinions upon the competency statements adapted from documents already existed could be advantages for the faculty staffs and dental practitioners who are not used to this format. The survey might encourage the faculty to seriously examine the present curriculum and to initiate ideas for reforming curriculum.

Materials and methods

The survey was conducted to assess the opinions of 101 full time faculty staffs in 10 clinical departments of Faculty of Dentistry, Chulalongkorn University and 276 random samples of dental practitioners currently worked in governmental agencies and/or in private sector about the competency standard. The competency standards for a new dental graduates consisted of 4

domains : 1) assessment of the patient and the oral environment, 2) establishment and maintenance of a healthy oral environment, 3) restoring of form, function and esthetics and 4) community dentistry and were divided into 15 major competencies. All 101 full-time faculty staffs in 10 clinical departments of Faculty of Dentistry, Chulalongkorn University were asked to complete the questionnaires and 85% (86 of 101 questionnaires) were completed and returned. Lists of dental practitioners were verified and constructed from various sources, namely: Division of Dental Public Health of the Ministry of Public Health, the Division of Dental Public Health of the Bangkok Metropolitan Authority, the Endodontic Society of Thailand, the Implant Society of Thailand, and the Alumni Association of Chulalongkorn Dental School. A list of 2,450 unique names of dentists was constructed for this survey. Using confidence interval of 95% and precision of the survey of $\pm$ 5%, the sample size according to Lwanga and Lemeshow[14] was 138. The expected response rate for the mailed questionnaires was 50% and the needed sample size was 276. The mailing list of 276 dentists was randomly selected from the 2,450 names of dentists constructed. The randomization scheme was prepared using a simple random sampling technique and the table of random number from Fishers and Yates.[15]

The research design was a cross-sectional descriptive study. The instrument used in this study was a questionnaire. Lists of competency statements in clinical area were adapted from the competency standards of three dental schools in the United States of America (Baylor college of Dentistry[16], School of Dentistry, University of Minnesota[17] and the University of Texas-Houston Dental Branch).[18] The adapted statements were translated into Thai language. They were then grouped into 15 major competencies. The questionnaire consisted of two parts. The first part listed competency statements of 6 major competencies. They were items considered as general competencies for all faculty staffs to give opinions. The second part listed competency statements of 9 major competencies. They were items related to dental specialties. Faculty staffs in each department were requested to give opinions to all items in the first part and to the items related to their specialty in the second part. The dental practitioners, on the other hand, were requested to respond to all items in both parts. Details of the domains, major competencies, number of competency statements and department being assessed are shown in Table 1.

For each statement, a response was requested on a Likert-like-5-point scales ranged from mostly agree to least agree. A space was also provided under each statement for the respondents to give comment. At the end of the questionnaire, space was provided for the respondents to give additional comments.

The questionnaire was evaluated by eight experts in the area of dental education for its content validity, language, wording and lay out. After test of the content validity, the questionnaire was corrected and improved. Then the questionnaire was examined by a group of 20 dental practitioners for internal consistency.

The measurements were performed once in each group. Direct access questionnaire was used for the faculty staff. Mailed questionnaire was used for the dental practitioners. The results collected were prepared for analysis by checking all the data, correcting the data, pre-coding the questionnaires and processing by computer.

The item correlation was chosen to test the content validity. The acceptable value was internal consistency (IC) that was equal or higher than 0.5.

Table 1 The domains, major competencies, number of competency statements and departments being assessed

Domains	Major competencies	No. of competency statements	Departments being assessed
Assessment of the patients and the oral environment	Examination of the patient	9	All Departments
	Diagnosis	7	All Departments
	Treatment planning	6	All Departments
Establishment and maintenance of a healthy oral environment	Prevention of diseases and maintenance of oral health	6	All Departments
	Emergency situation	7	All Departments
	Control of pain and anxiety	7	All Departments
	Surgical therapy	10	Oral Surgery
	Periodontal therapy	5	Periodontology
	Endodontic therapy	9	Operative Dentistry
	Occlusal therapy	7	Occlusion
	Orthodontic therapy	5	Orthodontics
	Oral Mucosal therapy	2	Oral Medicine
Restoring of form, function, and esthetics	Restorative therapy	11	Operative Dentistry
	Prosthodontic therapy	17	Prosthodontics
Community involvement	Community involvement	8	Community Dentistry

Results from the item correlation showed 59 items that reached perfect agreement (IC = 1.0), 55 items passed acceptable level, whereas 2 items did not reach satisfactory results. After discussion with experts, one item with an IC of 0.25 was kept in order to compare the result of the study with the Western standard and to compare the result between the study groups. It called for new dental graduates' competencies in techniques of inhalation anesthesia for controlling pain and anxiety. Another item with an IC of 0.13 was left out. It suggested that new dental graduates should be able to recognize and manage diseases of the oral cavity that are wider in scope and more severe than what they experienced during their undergraduate training.

Apart from the statistical result, written comments were given for many items. Improvement that had been done included deletion of one item, reorientation of some statements, and putting the original English

technical terms in the bracket after the Thai version for increased clarity.

The internal consistency method using Cronbach's Coefficient Alpha was chosen to test the reliability of this questionnaire. The acceptable value was a that was equal to or higher than 0.8. The data collected from pretest population as described previously were analyzed by using computer software program SPSS for Windows version 10 to calculate the Cronbach's coefficient alpha. The calculation revealed the alpha coefficient to be 0.9745. The reliability test yielded satisfactory results. Overall reliability as tested by Cronbach's Coefficient Alpha was higher than the acceptable level. The second part was the statistical methods for analyzing the obtained data. The obtained data were analyzed using descriptive statistics. Baseline data was summarized as number and percentage or mean and standard deviation and then tabulated. The close-ended opinions of the faculty staffs and dental practitioners were measured in ordinal, continuous type of data. They were summarized as frequencies and percentages, means and standard deviations. The opinions were analyzed by interpreting the opinions means according to the following criteria: 4.50-5.00 as mostly agreed, 3.50-4.49 as agreed, 2.50-3.49 as moderately agreed, 1.50-2.49 as slightly agreed and 1.00-1.49 as least agreed with the competency statements. For the open-ended opinions, the answers were listed.

Results

The response rate of the faculty staffs was 85% (86 of 101 questionnaires returned) compared to 53.3% (150 of 276 questionnaires returned) of the general practitioners. The baseline data revealed different characteristics between both groups. The differences were the mean age, educational background and working experiences (see Table 2).

Table 2 Demographic data, educational experiences and working status of the faculty staffs and the dental practitioners

Items	Summarized as	Faculty staffs	Dental practitioners
Demographic data			
Sex	% male : female	43.5 : 56.5	34.0 : 66.0
Age	Means ± SD	45.68 ± 8.38	34.87 ± 8.36
Previous residence	% Bangkok : others	58.8 : 41.2	39.5 : 60.5
Educational experiences			
Years after graduate	% of >10 years	88	42
Places of graduation	% Chulalongkorn Uni.: others	89 : 11	47 : 53
Highest degree	% higher than bachelor	95	40
Working status			
Years	% of > 10 years	69.4	42.2
Type of practice	% specialty : general	36.5 : 54.5	3.4 : 96.6
Location	% Bangkok: others	100: 0	32 : 68
Status	% government agencies	100	74.5

The means ± SD of the rating scales rated for 115 competency statements ranged from 2.61 ± 1.09 to 5.00 ± 0.00 by the faculty staffs and 2.61 ± 1.10 to 4.93 ± 0.32 by the dental practitioners. The result of the opinions that were interpreted as mostly agreed: agreed: moderately agreed were 47(40.87%): 57(49.57%): 11(9.56%) for the faculty staffs and 47(40.87%): 63(54.78): 5(4.35) for the dental practitioners (see Table 3). Major competencies that both faculty staffs and dental practitioners agreed to mostly agreed with all competency statements provided were : Diagnosis, Treatment planning, Prevention of diseases and maintenance of oral health, Emergency situation, Surgical therapy, Periodontal therapy, Endodontic therapy, Occlusal therapy, Oral mucosal therapy and Community dentistry. None of the opinions were given as slightly agreed or least agreed.

None of the mean differences between both groups exceeded 1.0. There were only 16 out of 115 statements that had the mean differences more than 0.5. Most of these statements were found in the area of 3 major competencies, which included occlusal treatment, orthodontic treatment and community involvement. The performance profiles also showed different level of agreement to nearly all items in these three major competencies.

Table 3 Frequency and percentage of competency statements being rated as mostly agreed, agreed and moderately agreed

Major Competencies	Total Items	Faculty Staffs			Dental Practitioners		
		Mostly Agreed	Agreed	Moderately Agreed	Mostly Agreed	Agreed	Moderately Agreed
Examination	9	3	6	–	3	5	1
Diagnosis	7	–	7	–	2	5	–
Treatment Plan	6	1	5	–	4	2	–
Prevention & Promotion	6	3	3	–	3	3	–
Emergency Treatment	7	1	6	–	1	6	–
Pain & Anxiety control	7	1	3	3	2	2	3
Surgical Therapy	10	4	6	–	6	4	–
Periodontal Treatment	5	4	1	–	3	2	–
Endodontic Treatment	9	5	4	–	3	6	–
Occlusion	7	5	2	–	–	7	–
Orthodontic Therapy	5	–	2	3	–	5	–
Oral Mucosal Therapy	2	–	2	–	–	2	–
Restorative Therapy	11	7	–	4	7	3	1
Prosthodontics Therapy	17	13	3	1	12	5	–
Community Dentistry	7	–	7	–	–	7	–
Total	**115**	**47**	**57**	**11**	**47**	**63**	**5**
Percentage (%)	**100**	**40.87**	**49.57**	**9.56**	**40.87**	**54.78**	**4.35**

For the open-ended opinions, 40 (47.06%) of the faculty staffs provided further comments compared to 72 (48.98%) of the dental practitioners. Results of the open-ended opinions for the proposed competencies raised several concerns. For faculty staffs, the examples of major concerns included the extent of the competencies, the different level of expected performances within complex competencies, the range of oral and systemic diseases that should be covered; the limited practical skill experiences in the dental school for many competencies and some competencies they felt should better be taught at post graduate level.

For the general practitioners, the examples of major concerns included lack or not enough practical skill training in many competencies during studying in the dental schools, some competencies that were rarely or not performed in real practices due to lack of instruments and financial supports or due to limitation of the number of staffs and time, their inability or compromised ability to perform some competencies, some competencies that had not been emphasized in the dental school and competencies they wished they had learned at the undergraduate level due to increasing needs of the patients.

At the end of the questionnaire that was provided for further opinions, there were 20 additional comments from the faculty staffs and 35 additional opinions from the dental practitioners. Comments were grouped into 4 topics. The first topic was about the questionnaire. Some respondents thought the questionnaire was quite long and had too many details. Nevertheless, they considered it would be benefit if the dental school brought the results of the study for curriculum reform.

The second group of opinions discussed about competencies that were not stated in the questionnaire for examples ethics, communication skills, life long learning, self- directed learning and teamwork. The competency on ethics was the most concerned. Many faculty staffs and dental practitioners felt that the dental school should really emphasize ethical issues in the curriculum.

The competency of self-directed learning is another concern from a few comments. New dental graduates should be able to obtain and process information in a critical, scientific and effective manner. Self-directed learning ability should be taught in the dental school. The competency to work as a team has been considered as a necessary skill that should be trained. New dental graduates should be a part of the health personal team. They should be able to work happily with others and work as members of teams.

The third group of opinions discussed about the curriculums they had experienced. The concerns were about some didactic contents being taught in dental schools that were not very useful in real practice, some competencies that were rarely trained, better teaching and learning strategies that could help students integrate various subjects and be more competent.

The last group of opinions gathered recommendations for improvement of the curriculum. Recommendations include: the dental school should gather more information from the stakeholders especially the needs of the patients and take into consideration; the competencies not included in this questionnaire should be established; the competency statements should be stated in precise terms and include performance and range criteria to indicate exactly what dental graduates could do in real practice; the dental school should have a special unit working under the department of academic affairs to systematically improve and develop the curriculum; minor changes should be done every year while major

changes should be done every five years; data and information used should be systematically gather from various sources; the dental school must seriously develop strategies to solve the problem of insufficient number of patients for undergraduates to practice; and diverse teaching and learning models should be developed to supplement undergraduates practice experiences.

Discussion

The Faculty of Dentistry, Chulalongkorn University, the first Dental School in Thailand, has been serving the nation by offering dental education for more than 60 years. To provide a standard education, the faculty has continuously developed its dental curriculum. Although there is no formal evaluation report of the 1986 curriculum, the curriculum seems to have many problems. To cope with all the problems, the dental school needs to look for new model in providing dental education. One model of interest is a model called "competency-based curriculum" which focuses on the outcome of the education of dental graduates. The foundation of the competency-based curriculum is based on the development competency statements that describe the dental graduates' capability characteristics. The competency statements will then serve as the basis for a curriculum improvement. The general objective of the study was to survey the opinions of the faculty staffs and the general practitioners towards the competency statements that describe dental graduates.

The outcomes collected in this study were the opinions of the competency statements in 4 domains covering professional clinical competencies. The professional clinical competencies were chosen because of several reasons. Firstly, most of the faculty staffs are responsible for providing clinical experiences for their undergraduates. Clinical dental care is the fundamental of professional career. Secondly, as the faculty staffs are used to the disciplined orientation, they would be more comfortable to give opinions towards the clinical skills they are adroit.

Faculty staffs are the most appropriate group of dental educators to give opinions for the study as they have direct responsibility in teaching dental students. Dental practitioners are important sources for ensuring that a curriculum the dental school plan meets the needs in dental needs of the society. Practice-related information could be gained from the dental practitioners. Suggestions from dental practitioners should be taken into consideration. This is because what dentists do in practice might not be the same as the education they have acquired.

The research methodology in this study did not include statistical tests of mean differences of the opinions between both groups. The statistical significance differences might not have any real educational importance and should not be of great concern in the consideration for curriculum revision. The real focus should be put on the open-ended opinions, which reflect the respondents' detailed opinions and their real needs. The interesting point of concerns should be on the competency items, which the responders rated as less agreed, and /or high standard deviation. The reasons of less agreement should be assessed and reconsidered whether those competency statements should be included in the objectives of undergraduate dental education or not.

Outcomes measures in this study were the opinions made by the faculty staffs and the dental practitioners. The first type of outcomes was the level of agreement to each competency statement. The outcome would present the quantitative dimensions of

the agreement. Another outcome was the open-ended opinions, which would give valuable information for curriculum improvement in qualitative dimensions. The opinions of respondents would present their different perspectives and/or reasons of their agreement for the competency statements. After analyzing the results, the researcher felt that the study would gain more valuable information if the questionnaire included requests for recommendations of how to improve the curriculum.

In this study, the competency statements in the questionnaire were adapted from the dental schools in Americas and were validated by 8 experts in the field of dental education. The underlying concept was that the responsibilities of the general dentists should be quite similar all over the world. What would be differences were the priorities or the emphasis that should be depended on context and society. Therefore, the existing competency statements from the western country could be suitable for Thai people.

Questionnaire construction in this study was concise. It is known that a long questionnaire might result in non-response or inaccuracies in recording by the respondents. However, a rather short or crude instrument might not reflect the practice activity accurately. Decision had been made to include all domains of professional clinical competencies with the appropriate details of the competency statements. One hundred and fifteen items could be considered to be too many to become a good questionnaire. To compensate for the length, the researcher then tried to design a questionnaire that had clear directions, with questions placed in sequence with similar format and used an easy format so that the respondents would be able to complete all questions without difficulties.

The high response rate from both the faculty staffs and the dental practitioners was a surprise and also delight. The explanation why the response rates were quite high might be because the format of the questionnaire was quite simple and they might have the sense or concern of curriculum improvement.

The baseline data revealed different characteristics between faculty staffs and the dental practitioners. These might affect the opinions given to the proposed competencies. Nevertheless, the advantages of these differences included wider perspective information for curriculum improvement.

Looking through the quantitative data of the results, it might be generally concluded that both faculty staffs and dental practitioners rated agreed to mostly agreed with all proposed "major competencies" given in the questionnaire except one major competencies: orthodontics treatment that the faculty staffs only moderately agreed. Although none of the mean differences for the major competencies between both groups exceeds 1.0, the differences that were more than 0.5 should be taken into consideration. These included the major competencies in the area of occlusal treatment, orthodontics treatment and community dentistry. The researcher considered that 0.5 point of mean difference should be taken into concern was because the performance profile results of those competencies showed the different level of agreement to nearly all items.

The results of closed-ended data showed different opinion between faculty staffs and general practitioners in 3 major competencies: occlusal therapy, orthodontic therapy and community involvement. The general practitioners agreed less with all statements in occlusal therapy due to the difficulties of the subjects. The general practitioner would feel incompetent to perform such competency. On orthodontic treatment, on the other hand, the faculty staffs showed lower agreement

in all items. It might be because they might consider that orthodontic treatment is quite complex and maltreatment might cause serious problems to patients. Thus, less emphasis on orthodontic competencies has been placed at undergraduate level. For Community involvement, faculty staffs gave lower score to every statement when compared to general practitioners. The reason might be that the statements provided were more like behavioral objectives rather than true competencies. Furthermore, some statements were competencies that were quite difficult to perform. It might be necessary to reestablish the statements to obtain a clearer picture of graduates' ability in this area.

In this study, the result of the rating scale only indicated the level of the agreement to the proposed statements. The different levels of the agreement would depend on many reasons or perspectives of the responders, which could not be clearly identified by the design of the study. The scope (the specificity or broadness), the simplicity (difficult or easy to perform), the practicability (the practicable in real practice) of the proposed statements and the experiences of the respondents might have influenced their opinions.

The competency statements that were rated as "moderately agreed" should be reconsidered whether they are necessary or not to the present needs. Some parts of the results identified specific topics, in which dentists considered themselves to be under prepared in their training. These should also be taken into consideration when improving the curriculum.

Competency-based curriculum, a different model from the discipline-based model currently used is recommended. If the competency-based education model is to be implemented, the whole curriculum will require considerable changes. The first step will be defining educational objectives that focus the outcomes of the education.

This study used proposed competency statements to assess the opinions of the faculty staffs and dental practitioners. The results of the study revealed many useful points for the faculty to take into considerations when improving the curriculum to meet the societal needs in the twenty-first century. The study gathered opinions from both the faculty staffs, who were on the producing side, and from dental practitioners, who were the outcomes of dental education and worked in real practice. So the results of the study were useful because it provided different perspectives and the reasons from both groups.

To change the educational systems is difficult. However, the change is needed. There have been recommendations to help enhancing the possibility of the difficult tasks.[7,19-25]

Faculty of Dentistry Chulalongkorn University if prefer to improve the curriculum will have to put this project into the strategic plan. The curriculum improvement requires its entire member to be involved. The Faculty has to develop a shared vision. The faculty staffs should work together and getting consensus of the competencies that describe graduates. The competencies then can become the objectives that lead to the changing of the curriculum structure and the whole education cycle. Organization change and Human Resource Development are some key factor to the succession. The administrators play important roles in giving full support, help removing obstacles and consider tenure and promotion policies.

This research provided an opportunity to introduce the faculty staffs to other perspectives of reviewing the curriculum. This was accomplished by requesting them to give opinions to the competency statements provided. The study might lead to a curriculum improvement and result in the development of a new curriculum that will educate dental

undergraduates to become competent general practitioners. New dental graduates from a new curriculum will hopefully be better equipped to serve the nation in the twenty-first century.

Conclusion

Meeting the demand of dental care needs in the twenty-first centuries, the undergraduate program will require new, innovative, and flexible models. Many dental schools in the Western countries include the American Association of Dental Schools believed that the model must be competency-based which focus on the outcomes of undergraduates. By defining the competencies of new dental graduates, the dental school will have a benchmark with which to review, redefine, and restructure the pre-doctoral curriculum, review and improve student evaluation process and promotion criteria, establish and apply outcome measures to access the effectiveness of the pre-doctoral program.

This study surveyed the opinions of faculty staffs and dental practitioners towards the proposed clinical competencies for new dental graduates of Faculty of Dentistry, Chulalongkorn University.

From this survey, statements that were rated highly by both faculty staffs and general practitioners could serve as the basis for a core set of statements to describe the abilities of undergraduates. However, these data should stimulate further discussions among the stakeholders about the futures of dental undergraduate program and get consensus. Statements that received lesser agreement needed to be further studied whether they are suitable to be used. The study has provided a useful insight into how faculty staffs and dental practitioners view about the standard of the Dental undergraduate education.

Competencies statements in other domains that were not included in this study should be established and discuss to find consensus. Teaching and learning activities, as well as assessment techniques for these competencies, should be reviewed and revised, to ensure that undergraduates posses those competencies prior to graduate.

Change in educational system is difficult. However, the Faculty of Dentistry, Chulalongkorn University will definitely have to change and start immediately. As the first and the biggest Dental school in our Country, we have to be the leader to change the dental educational system for preparing our graduates to be competent in their professional roles in the rapid evolutionary cycles of the twenty-first centuries.

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การสำรวจความคิดเห็นต่อมาตรฐานสมรรถนะวิชาชีพทันตแพทยศาสตร์สำหรับทันตแพทยศาสตรบัณฑิตใหม่

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บทคัดย่อ

วัตถุประสงค์ สำรวจความคิดเห็นของอาจารย์ภาควิชาคลินิก และทันตแพทย์ทั่วไปเกี่ยวกับมาตรฐานสมรรถนะวิชาชีพทันตแพทยศาสตร์สำหรับทันตแพทยศาสตรบัณฑิตใหม่ของจุฬาลงกรณ์มหาวิทยาลัย

วัสดุและวิธีการ รูปแบบการวิจัย เป็น การศึกษาเชิงพรรณนาระยะสั้น ประชากรที่ทำการศึกษา ได้แก่ อาจารย์คณะทันตแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย 10 ภาควิชาคลินิกทั้งหมดจำนวน 101 คน และทันตแพทย์ทั่วไปที่ประกอบวิชาชีพในประเทศไทยทั้งส่วนราชการและ/หรือเอกชน ซึ่งได้มาโดยการสุ่มตัวอย่าง 276 คน วิธีการศึกษา ทำโดยพัฒนาแบบสอบถามโดยปรับปรุงและแปลประโยคแสดงสมรรถนะวิชาชีพทางคลินิกจากมาตรฐานสมรรถนะวิชาชีพของคณะทันตแพทยศาสตร์ 3 แห่งในประเทศสหรัฐอเมริกา แบบสอบถามประกอบด้วยประโยคแสดงมาตรฐานสมรรถนะวิชาชีพ 115 ข้อแบ่งออกเป็น 15 หมวด แต่ละประโยคประกอบด้วยคำถามปลายปิดแบบไลเคิร์ดสเกล 5 สเกลและคำถามปลายเปิด ส่วนท้ายของแบบสอบถามมีคำถามปลายเปิดสำหรับแสดงความคิดเห็นเพิ่มเติม แบบสอบถามผ่านการประเมินความตรงเชิงเนื้อหาโดย ผู้ทรงคุณวุฒิทางทันตแพทยศาสตร์จำนวน 8 ท่าน และผ่านการทดสอบความเที่ยงของเครื่องมือ ผลการทดสอบพบว่ามีค่า Cronbach alpha เท่ากับ 0.9745 การวัดผลกระทำครั้งเดียวในแต่ละกลุ่ม นำข้อมูลที่ได้มาทำการวิเคราะห์โดยใช้สถิติเชิงพรรณนา

ผลการศึกษา อัตราการตอบกลับของอาจารย์คณะทันตแพทยศาสตร์ และทันตแพทย์ทั่วไปมีค่าเท่ากับ 85% (86/101) และ 53.3% (150/276) ตามลำดับ ค่าเฉลี่ย $\pm$ ส่วนเบี่ยงเบนมาตรฐานของความเห็นต่อประโยคมาตรฐานสมรรถนะวิชาชีพมีค่าระหว่าง 2.61 $\pm$ 1.09 ถึง 5.00 $\pm$ 0.00 โดยอาจารย์ และ 2.61 $\pm$ 1.10 ถึง 4.93 $\pm$ 0.32 โดยทันตแพทย์ทั่วไป อัตราส่วนของประโยคมาตรฐานสมรรถนะวิชาชีพที่ได้รับการเห็นด้วยมากที่สุด : เห็นด้วยมาก : เห็นด้วยปานกลางเท่ากับ 47(40.87%):57(49.57%):11(9.56%) โดยอาจารย์ และ 47(40.87%):63(54.78%):5(4.35%) โดยทันตแพทย์ทั่วไป ทั้งสองกลุ่มแสดงความคิดเห็นไปในแนวทางเดียวกัน ยกเว้นหมวดการรักษาระบบบดเคี้ยว การจัดฟันและการมีส่วนร่วมในชุมชน อาจารย์และทันตแพทย์ทั่วไปให้ความเห็นเพิ่มเติมเกี่ยวกับมาตรฐานสมรรถนะวิชาชีพที่ไม่ปรากฏในแบบสอบถาม รวมทั้งคำแนะนำในการปรับปรุงหลักสูตร ผลของงานวิจัยนี้ได้นำไปใช้ในการพัฒนาหลักสูตรทันตแพทยศาสตรบัณฑิต ฉบับปรับปรุง 2549 ซึ่งใช้เวลาในการพัฒนา 4 ปี โดยเริ่มใช้หลักสูตรนี้ในปีการศึกษา 2550

สรุป ผลสำรวจความคิดเห็นของอาจารย์คณะทันตแพทยศาสตร์ จุฬาลงกรณ์มหาวิทยาลัยและทันตแพทย์ทั่วไปต่อมาตรฐานสมรรถนะวิชาชีพสำหรับทันตแพทยศาสตรบัณฑิตใหม่ที่มีความคิดเห็นไปในทางเดียวกัน และจัดอันดับสูงควรเป็นพื้นฐานหลักสำหรับสมรรถนะของบัณฑิตใหม่ มาตรฐานสมรรถนะที่มีความคิดเห็นไม่สอดคล้องกันมากควรได้รับการศึกษาความเหมาะสมต่อไป และมาตรฐานสมรรถนะที่ไม่ปรากฏอยู่ในแบบสอบถามควรได้รับการศึกษาและพิจารณาการนำเข้ามาเป็นมาตรฐานสมรรถนะต่อไป

(ว ทันต จุฬาฯ 2550;30:287-302)

คำสำคัญ: *มาตรฐานสมรรถนะวิชาชีพ; ทันตแพทยศาสตรบัณฑิตใหม่*