



Review Article

Comparison of the quality assurance system of dental professionals in Japan, the EU and the ASEAN

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ABSTRACT

In recent years, the society requires a flexible response of the dental society to deal with changes in disease structure in the super-aging society in Japan. Regarding quality of dental care, we need to ensure quality of clinical environment, dental professionals and the system. As globalization expands, the health care professionals move to another country to work. In the European Union (EU), the quality assurance system for the graduated European dentist through the activities in undergraduate education has been established and a similar approach is ongoing in the region of the Association of South-East Asian Nations. After the registration, the continuing professional development (CPD) system takes a role on quality assurance for dentist. The DentCPD was an approach to create a standard for CPD in the EU. Regarding the quality assurance system in Japanese dentistry, there were systematic approaches, establishing the model core curriculum in dental education, the common achievement test. Besides them, the quality assurance system for dentist has not been established except the voluntary life-long learning program of the Japan Dental Association. Predicting changes of the society to have quality control for dental professionals, we should prepare the system like the CPD system which matches level of the global standard.

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1. Introduction

While the prevalence of dental caries has been decreasing in the past decade, the improvement of oral function such as mastication, swallowing and utterance, to prevent oral frailty is pointed out as a new role of dental professionals in Japan [1]. The Act concerning the Promotion of Dental and Oral Health, the first law which presents that oral health promotion serves fundamental and important functions for a citizen to live a health and high quality of life, was promulgated and executed in 2011 and it clarifies the basic philosophy for dental and oral health [1]. As the aging of the population progresses, the patients visiting dental clinics are also becoming more aged and dental professionals should treat them from more diversified standpoints than before to provide better dental care in collaboration with medical and nursing care. In 2015, the Ministry of Health, Labour and Welfare organized a committee to discuss three topics, 1) supply and demands of dental workforce, 2) working environment for female dentists, 3) dental specialty systems. The interim report of the committee was released in December 2017 and it summarized proposals on those topics and solutions

to correspond to next generation. It shows the necessity of the new health care system in community-based health care with implementing a new role of the health care facilities and interprofessional collaborative work. Regarding dental professionals, it reports that dentist should act as a primary care dentist to meet the needs of an individual patient and residents in the community. It also requires more smooth collaboration between dentists and other healthcare professionals to achieve higher level of the outcome on promotion of health care. To achieve these goals, the report mentions the importance of life-long learning to response to these requirements and changes of the environment, and that dentist should keep their knowledge, skills and attitude properly. It is easy to understand the importance of life-long learning which is necessary to establish a foundation of a dentist as a profession, however, it may be hard to recognize the value of activities of life-long learning.

In order to fulfill the accountability for the society about quality assurance for dental care, it should be necessary to show the evidence how the quality is maintained in the activities for professional development such as life-long learning and systems with legal frameworks. Sufficient information of dental clinics provided to the public sometimes helps the patients to decide where they visit. The typical way of quality assurance is carried out by dental regulatory body to maintain and improve the standards of patient care and safety objectively. The general framework for the dental

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system helps the foundation to keep the good environment for dental care. Besides the system for environment and facilities, from the system for human resource management, how to manage the quality of dental professionals is another big key issue. Even in a good environment, the result of the treatment is finally affected by the performance of a dentist. Regulating the dental professionals to protect a quality of patient care, it is basically based on the management of dental programs. By checking the framework of undergraduate education where students learn to be a dentist, we can recognize how competent those students are against the outcome. To prove the competence of individual graduated dentist, the system of national examination for dental practitioners has an important role for it.

These quality assurance systems are mostly designed to work in a single country so far. As globalization brings the world smaller, it promotes mobility of citizens and goods, service, money beyond the borders and it causes movement of patients and dental professionals as well. Also, recognition of professional qualification by multiple countries promotes the mobility of workers and this relates deeply to the quality assurance of professionals for patient's safety beyond the borders. In the United States (US), nowadays, about 25% of all practicing physicians is comprised of international medical graduates [2]. In 2010, the US Educational Commission for Foreign Medical Graduates has informed that, physicians applying for ECFMG Certification will be required to graduate from a medical school that have been accredited through the process similar to the way done by Liaison Committee on Medical Education in the US after 2023 [2]. In response to this announcement, the Japan Accreditation Council for Medical Education was established in 2015, which is recognized by the World Federation for Medical Education as an official accreditation organization in March 2017, to assure the quality of medical education in Japan from an international perspective [3]. In the field of dental healthcare, a national policy and demand from the society causes the change. Free movement of dental professionals across the European Union (EU), the mutual recognition arrangement (MRA) of dental professionals in the Association of South East Asian Nations (ASEAN) call for more collaboration on quality management in dental education. Setting the global standard of dental education initiates internal improvement of education in a single country and this promotes the quality of dental professionals to the global level consequently [4]. In this article, in order to expand the perspective of the quality assurance of dental professionals and dental care in Japan, I would like to summarize the current condition of the quality assurance system for dental professionals in the EU, the ASEAN and Japan.

2. Quality assurance of dental profession in the EU

In the European Union, Directive on the recognition of professional qualifications 2013/55/EU effects on the recognition of professional qualifications of dentists, medical doctors, nurses responsible for general care, midwives, pharmacists, veterinary surgeons and architects for automatic mutual recognition in the EU member countries [5–7]. And the ministers of Education of the European countries signed the Bologna Declaration in 1999, to start the process to converge and harmonize the higher educational systems across the European countries.

The Association for Dental Education in Europe (ADEE) is an organization standing for 200 dental schools in Europe. It had implemented some projects, the DentEd Thematic Network, the DentEd Evolve, the DentEd III to harmonize dental education and the quality assurance systems of it in the European countries [8–10]. In general assembly of the ADEE in Cardiff in 2004, “Profile and Competences for the European dentist” was accepted by European dental schools as a core competency in order to train

Table 1

Summary of methods to quality assure the delivery of dental education (reproduced from the original article [14]).

Domain	Method
Staff appraisal, training and development	<ul style="list-style-type: none"> • Regular, structured staff training • Professional development planning • Peer observation of teaching • Professional accreditation • Mapping to professional standards • Clear promotions criteria for all grades
Policies and procedures including disciplinary action	<ul style="list-style-type: none"> • Ensure policies are contemporaneous • Effective dissemination of policies/procedures • Longitudinal assessment of student performance and professionalism • Fair and robust fitness to study and fitness to practice procedures • Clear exit points for students who will fail to progress through clinical programmes
Feedback and calibration	<ul style="list-style-type: none"> • Consider staff and student feedback in an open and transparent manner • External review of programmes and processes • Involve students in the quality assurance of assessment • Regular examiner calibration and training • Utilise regular patient feedback • Regular inspection by an accreditation body
Supportive infrastructure	<ul style="list-style-type: none"> • Rolling programme of improvements • Accessible and appropriate patient base • Ensure healthy staffing ratios

dental students to become European general dental practitioners [11]. Following the competency, curriculum content, structure and other fundamental component of dental education were discussed in the ADEE continuingly [12], and “Profile and competences for the graduating European dentist – update 2009” are regarded as a competency required for dental education for European dental schools [13]. In 2017, a new undergraduate framework has been introduced to adapt to a new movement for implementing outcome-based curriculum [14,15]. Result of reclassifying and clarifying seven domains for competences in the original document, a new framework comprised four domains and each domain is accompanied by a series of ‘Learning Outcome’. And the guidance of ‘Methods of Teaching and Learning’ and ‘Methods of Assessment’ is also provided to increase the accessibility and utility of the framework. It also shows the summary of methods to quality assurance process for the delivery of dental education (listed in Table 1 [14]). ADEE also has a program called “LEADER, The dental education excellence program” [16]. This program is a continuous quality improvement program for dental schools and complementary to existing regional quality assurance programs. A dental school which has completed school visitation by ADEE can participate in this program. Four-years program based on the principle of peer reviewed self-assessment, a commitment to continuous quality improvement will be provided as enhanced support to meet the quality assurance requirement of regional regulatory body. This activity is open to both dental schools within ADEE memberships and non-member dental schools. From the perspective of quality assurance, ADEE activities bring convergence toward high quality of dental education and harmonization in European countries. By these ADEE’s activities, dental educators and regulatory body in each member country provide quality of dental education to award diplomas which mutually recognized in the EU.

Working as a dentist in another member country in the EU, the diploma, a certain amount of vocational training experience, a letter of recommendation from a registering organization and the EU citizenship are necessary.

Continuing Professional Development (CPD) to maintain the registration for the dental list is an ethical obligation for dentist in the EU countries, to support the philosophy of the European Quality Framework (EQF) [17]. The systems of CPD vary among member countries, however, every member country recognizes that CPD is essential component for quality assurance of a graduated dentist for knowledge, skills, patient safety, so that the CPD system are implemented as mandatory system for registration in most countries in the EU region. In the context of harmonization of CPD in Europe, a project “DentCPD” to support the safe management of patients and promote mobility of dentist, began in 2010 and finished in 2012 [18]. The project was a two-year European project funded with support from the European Commission. As the outcome of the project, “Dental Continuing Professional Development (CPD) Reference Manual” had been published [18]. In a result, as a recommendation, it includes four core-compulsory CPD topics: medical emergencies, infection control, management of the medically compromised patient, radiation protection [19]. In addition, it highlighted three recommended CPD topics: health and safety, pain management, safeguarding children and vulnerable adults [19]. These guidelines for CPD helps all dental professionals, educators, providers to make better quality management of CPD programs for graduated dentists, by providing modes of delivery, methods for teaching, assessment and pedagogic guidelines for CPD [19,20]. Each country has their own regulation and the system for CPD, and the structure of CPD can vary. The guidelines support the development of high-quality continuing dental education programs in European countries, designed to promote high-quality dental care, according to evidence-based internationally recognized standards [20]. The result of the DentCPD brought CPD more understandable and facilitated the transferability of CPD credits across the EU. And it leads to better quality assurance within dentistry for the improvement of patient safety [20].

3. Quality assurance of dental profession in the ASEAN

The Association of Southeast Asian Nations (ASEAN) is a political and economic organization to promote economic growth and regional stability among 10-member countries in southeast region of Asia. Based on the notion of free trade agreement, the ASEAN promotes mobility of citizens and goods, service, money among the regional area. Related to the mobility of workers in dentistry, the ASEAN Joint Coordinating Committee on Dental Practitioners (AJCCD) discusses matters on the Mutual Recognition Agreement (MRA) on Dental Practitioners [21]. The MRA was signed in March 2009, to facilitate the mobility of dental professionals within the ASEAN region, and to exchange information and expertise on standards, qualifications, and to promote adoption of best practices for professional dental services and provide opportunities for capacity building and training of dental practitioners [21–23]. According to the ASEAN Community Vision 2020 and 2025, facilitating mobility of skilled workers including dental practitioner in the ASEAN is one of the important objectives. The ASEAN approach is different model from EU and the MRA is still on going, however following this political movement, “Competencies of the New General Dental Practitioner” was developed in the Dental Deans Workshop at the 10th the South East Asia Association of Dental Education (SEAADE) meeting in 2015 [24].

And other movement of the ASEAN Dental Forum (ADF) supported by the AJCCD shows the new collaboration to achieve the harmonization of dental education in the ASEAN region. In May 2015, the first meeting of the ADF was held and 26 representatives of dental schools and the dental councils of the ASEAN member countries signed the declaration. In 2017, based on the past activities of the ADF, “Common Competencies for ASEAN General Dental

Practitioners” was proposed as 33 common major competencies on January 31, 2017 [25].

The ASEAN competencies will be the foundation of educational development processes, for developing curriculum, assessment and staff development. The successful harmonization of the ASEAN undergraduate dental education relies on collaboration among the AJCCD, dental schools, other stakeholders, and the ASEAN community. Regarding the CPD system in the ASEAN region, activities similar to the DentCPD is not seen yet and it is still under discussion. Currently, eight countries out of 10-member countries have the CPD system to assure quality of dentist as a national system. The AJCCD regularly open the information on the policies related to dental services on their HP.

4. Quality assurance of dental professional in Japan

4.1. Undergraduate education

At the end of 1990's, new educational contents of clinical topics had arisen and it caused the demand to change dental curriculum. In 2001, the Coordinating Council on Medical and Dental Education of the Ministry of Education in Japan released a report entitled “Strategies for Restructuring of Medical and Dental Education in the 21 st Century” for undergraduate clinical education in medicine and dentistry. This report included 1) curriculum structure (Integrated curriculum), 2) the model core curriculum (selection of items for educational content), 3) assessment system (the common achievement test), 4) clinical education, 5) faculty development and these recommendations had become a foundation of current dental education system in Japan. Currently, under the agreement of 29 dental schools, every dental school use the dental common achievement test (CAT) as a standard assessment. The objective of implementing the CAT is to check whether dental students acquire certain competencies of the model core curriculum for dental education as a core competency and to clarify the quality of the student's ability as a safe-beginner for patient treatment [26]. And it comprises of the computer-based test which checks the level of knowledge with multiple questions of basic and clinical dentistry, the objective structured clinical examination which checks the level of knowledge and attitude, skills of dental students. The CAT is organized by the Common Achievement Testing Organization (CATO), a cooperate organization of all medical and all dental schools in Japan. The CAT was officially introduced in 2006 and all dental school in Japan changed their educational framework and implemented the model core curriculum for 60% of time allocation for their curriculum in the middle of 2000's. After passing the CAT, students can start to perform basic treatments under the supervision of the faculty staff. In order to obtain a dental license for a primary registration, it is necessary to pass the national examination for dental practitioners after graduating the dental school. In the context of the assessment of knowledge of dental sciences, the CBT is closely related to the national examination for dental practitioners which comprises of multiple-choice questions. In 2017, the working group of the national examination for dental practitioners at the Medical Ethics Council released the report that the CATO and the Medical Ethics Council would start to exchange information of the system periodically, to develop new mutual relationship for the future. With a primary registration, the new graduate dentist only can work under the supervision of the dentist certified by the Ministry of Health, Labour and Welfare and they enter one-year training program to learn more clinical oriented topics. Completion of the program at the registered dental hospital and clinics is a requirement to get the certification for a secondary registration which allows the graduate dentist to work solely. In this way, quality management for education / training in the first seven-years has been improved to

guarantee good level of the quality of the newly graduated dentist in Japan.

4.2. Postgraduate education

From the current situation of other regions in the world, the EU and the ASEAN, we could understand the CPD system is imperative for the quality management of dental professionals, however, it is not mandatory for dentists in Japan. Once the dentist gets the license, the dentist can hold the registration without any official activities in Japan. The Japan Dental Association (JDA) has been implemented the life-long learning program for the JDA members since 1990. The program is a voluntary program to assist the activities of the JDA members by managing their record and credits in the electronic system. There are four kinds of learning sessions including lectures, self-study, presentation at academic meeting / dissertation, conference attending. The credit is set for each training, to obtain “the Certificate of Completion”, it is required 20 credits for three learning sessions excluding conference attending in two years. Also, it is required 60 credits for three learning sessions and 10 credits for conference attending in two years to obtain “the Certificate of Authorization”. They are valid for two years, respectively. This voluntary system supports the JDA member dentists to keep their motivation for learning and keep their study records, and it works as quality management system internally.

5. Conclusion

In the member countries of the EU, there are collaborative approaches not only for undergraduate education but also for CPD as postgraduate education in order to guarantee the quality of the dental professionals throughout the region. And in the ASEAN region, they have a similar approach of the MRA for dental practitioners. As a function of CPD, the accumulation of self-improvement shows the professional status of each dentist by keeping their activity records. And the CPD system working properly, it achieves the accountability of the profession by constructing the self-purification system for quality management. As a result, the CPD system would have a role to keep the dental license list updated and check the condition of each dentist for the Fitness to Practice. Regarding the quality management of health care professionals including a dentist, the national government could control it within a border to demonstrate the accountability for the citizens. However, as the free trade principle advances, the movement of health care professionals across borders occurs, we need to consider the new scheme for the quality management as international standard to provide the safe care for the citizens in every country. The quality management for dentists in Japan, the activities since 1990's had constructed reliable system and shows the high level of the quality in the undergraduate education including one-year vocational training. On the other hand, the JDA provides the life-long learning program for its membership, however, from the perspective of regulating the quality of professionals, there is no system to ensure that every Japanese dentist fulfill the conditions to work as a dentist, even though the society respects the voluntary action of dental profession. In order to show the evidence that the level of quality of Japanese dentist is enough high as an international standard, it should be better to consider the nationwide quality assurance scheme for dental registration as a mandatory system. For the citizen receiving dental treatments, the most important matter is to know who the dentist meeting with the condition for registration is, not who is a good dentist with advanced skilled. Once the CPD system should be used as a compulsory condition, it should be organized as an official scheme by the public organization, not as the voluntary system, it will work for the role of the Fitness to Practice

to protect patient rights. In Japan, recently the quality assurance for dental specialist have been discussed to organize the relations between each specialty. It is necessary to clarify the role of each specialist and strengthen the quality management system, but first of all, we need to establish the standard for the profile of a general dentist for patient safety. For keeping the condition as a general dentist, medical safety, infection control, radiation protection etc., which are fundamental competences of a general dentist, should be core components of CPD activities. In the coming future, new medical technologies with utilization of Artificial Intelligence will emerge and dental professionals have to change with the trends to provide the best service for patients. In Japan, about 101,551 dentists are engaged in dental care and we need to think the aging population in dental society seriously, an average age of dentists in dental clinics is 52.9 years old (Ministry of Health, Labor and Welfare, 2016). Furthermore, current trend of work style reform will bring more cases for leaving and reinstatement due to parenting and nursing a family. Dental society should prepare the CPD system to support those dentists to continue their career to show their quality for the public. The public requires a system that only the dentists who fulfill the condition can holds a registration. To keep the registration, the CPD system will be a good solution for it, and from its nature, it will be a tool to measure the responsibility of dental profession.

Conflicts of interest

No conflicts of interest are declared in relation to this manuscript.

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References

- [1] Miura H. Implementation of community dentistry due to the Act concerning the Promotion of Dental and Oral Health and challenges for the future. *J Natl Inst Public Health* 2014;63(2):97 (in Japanese).
- [2] Kuwabara N, Yamashita M, Yee K, Kurahara. The evolution of the Japanese medical education system: a historical perspective. *Hawaii J Med Public Health* 2015;74(3):96–100.
- [3] Saiki T, Imafuku R, Suzuki Y, Ban N. The truth lies somewhere in the middle: swinging between globalization and regionalization of medical education in Japan. *Med Teach* 2017;39(10):1016–22.
- [4] Donaldson ME, Gadbury-Amyot CC, Khajotia SS, Nattestad A, Norton NS, Zubiaurre LA, et al. Dental education in a flat world: advocating for increased global collaboration and standardization. *Eur J Dent Educ* 2008;72(4):408–21.
- [5] Ling Kate, Belcher Paul. Medical migration within Europe: opportunities and challenges. *Clin Med* 2014;14(6):630–2.
- [6] European Commission, Automatic recognition, Available from: <http://ec.europa.eu/growth/single-market/services/free-movement-professionals/qualifications-recognition/automatic.en>. [Accessed 1 April 2018].
- [7] Kortese L. Exploring professional recognition in the EU: a legal perspective. *J Int Mobil* 2016;1(4):43–58.
- [8] Scott J. Dental education in Europe: the challenges of variety. *Eur J Dent Educ* 2003;67(1):69–78.
- [9] Shanley DB, Dowling PA, Claffey N, Nattestad A. European convergence towards higher standards in dental education: the DentEd Thematic Network Project. *Med Educ* 2002;36(2):186–92.
- [10] Harzer W, Tausche E, Gedrange T. Harmonisation of Dental Education in Europe—a survey about 15 years after visitation of dental schools participating in the DentEd project. *Eur J Dent Educ* 2017;21(1):22–7.
- [11] Plasschaert AJ, Holbrook WP, Delap E, Martinez C, Walmsley AD. Profile and competences for the European dentist. *Eur J Dent Educ* 2005;9(3):98–107.
- [12] Plasschaert AJ, Lindh C, McLoughlin J, Manogue M, Murtomaa H, Nattestad A, et al. Curriculum structure and the European credit transfer system for European dental schools: part I. *Eur J Dent Educ* 2006;10(3):123–30.
- [13] Cowpe J, Plasschaert A, Harzer W, Vinkka-Puhakka H, Walmsley AD. Profile and competences for the graduating European dentist—update 2009. *Eur J Dent Educ* 2010;14(4):193–202.
- [14] Field JC, Cowpe JG, Walmsley AD. The graduating European dentist: a new undergraduate curriculum framework. *Eur J Dent Educ* 2017;21(Suppl. 1):2–10.

- [15] Field JC, Walmsley AD, Paganelli C, McLoughlin J, Szep S, Kavadella A, et al. The graduating european dentist: contemporaneous methods of teaching, learning and assessment in dental undergraduate education. *Eur J Dent Educ* 2017;21(Suppl. 1):28–35.
- [16] The Association for Dental Education in Europe. LEADER Leading European Academic Dental Education and Research. The dental education excellence programme. Available from: <https://www.adee.org/leader/ADEE-Leaders-15-08.pdf>. [Accessed 15 January 2019].
- [17] Study concerning the review and mapping of continuous professional development and lifelong learning for health professionals in the EU [D.4 FINAL REPORT], Available from: https://ec.europa.eu/health/sites/health/files/workforce/docs/ev_20141124_co01_en.pdf. [Accessed 1 April 2018].
- [18] Cowpe J. Dental continuing professional development (CPD) reference manual. *Eur J Dent Educ* 2013;17(Suppl. 1):1–4.
- [19] Bailey S, Bullock A, Cowpe J, Barnes E, Thomas H, Thomas R, et al. Core continuing professional development (CPD) topics for the European dentist. *Eur J Dent Educ* 2013;17(Suppl. 1):23–8.
- [20] Suomalainen K, Karaharju-Suvanto T, Bailey S, Bullock A, Cowpe J, Barnes E, et al. Guidelines for the organisation of continuing professional development activities for the European dentist. *Eur J Dent Educ* 2013;17(Suppl. 1):29–37.
- [21] Association of Southeast Nations. Dental Practitioners (AJCCD). Available from: <http://asean.org/asean-economic-community/sectoral-bodies-under-the-purview-of-aem/services/healthcare-services/dental-practitioners-ajccd/>. [Accessed 1 April 2018].
- [22] Association of Southeast Nations. ASEAN Mutual Recognition Arrangement on Dental Practitioners. Available from: http://www.asean.org/wp-content/uploads/images/2013/economic/sectoral/healthcare_services/mra_dental.pdf. [Accessed 1 April 2018].
- [23] Poolthong S, Chuenjitwongsa S. Facilitating the movement of qualified dental graduates to provide dental services across ASEAN member states. *Interface Oral Health Science* 2016;73–9. Available online, 1 April from DOI 10.1007/978-981-10-1560-1.
- [24] South East Asia Association of Dental Education. Competencies of the New General Dental Practitioner. Available from: http://www.seaade.org/?page_id=125. [Accessed 1 April 2018].
- [25] Chuenjitwongsa S, Poolthong S, Bullock A, Oliver RG. Developing common competencies for southeast asian general dental practitioners. *J Dent Educ* 2017;81(9):1114–23.
- [26] Ryder MI, Morio I. Current challenges for dental education in Japan and the United States. *Jpn Dent Sci Rev* 2011;47:23–30.