



Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.e-jds.com



Perspective article

The evolution of dental teaching and research unit for the medical students from Taipei Imperial University to National Taiwan University (1939–2000)

Feng-Chou Cheng^{a,b,c}, Yin-Lin Wang^{d,e**},
Chun-Pin Chiang^{d,e,f,g*}

^a Chia-Te Dental Clinic, New Taipei City, Taiwan

^b School of Life Science, College of Science, National Taiwan Normal University, Taipei, Taiwan

^c Science Education Center, National Taiwan Normal University, Taipei, Taiwan

^d Department of Dentistry, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei, Taiwan

^e Graduate Institute of Clinical Dentistry, School of Dentistry, National Taiwan University, Taipei, Taiwan

^f Graduate Institute of Oral Biology, School of Dentistry, National Taiwan University, Taipei, Taiwan

^g Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, Hualien, Taiwan

Received 14 May 2024

KEYWORDS

Chair of dentistry;
Department of
dentistry;
Dental education;
Medical education;
Medical students

* Corresponding author. Department of Dentistry, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation, No. 707, Section 3, Chung-Yang Road, Hualien, 970, Taiwan.

** Corresponding author. Department of Dentistry, National Taiwan University Hospital, College of Medicine, National Taiwan University, No. 1, Chang-Te Street, Taipei, 10048, Taiwan.

E-mail addresses: wil1019@ntu.edu.tw (Y.-L. Wang), cpchiang@ntu.edu.tw (C.-P. Chiang).

<https://doi.org/10.1016/j.jds.2024.05.018>

1991-7902/© 2024 Association for Dental Sciences of the Republic of China. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

During the Japanese colonial period (1895–1945), the modern medical system was systematically introduced to Taiwan for the first time through the government power. The Taiwan Government Medical School established in 1889 was the first medical education facility for cultivating physicians in Taiwan. After several stages of the changes of this medical education facility, Taiwan's medical education system has continued to improve and mature, and has become an important cornerstone in promoting the development of Taiwan's medicine and public health.¹ From the Taiwan Government Medical School in 1902 to the Faculty of Medicine of Taipei Imperial University (TIU) in 1945, Taiwan's medical education facilities at various stages trained a total of 2817 medical graduates.² In Taiwan, the Japanese colonial government only established an educational system to train physicians rather than dentists. However, under this special background, there was also a special dental practitioner training system in Taiwan at that time. A special system for physicians who had received dental professional training allows them to obtain a license to engage in dental practice.^{3,4} Therefore, in addition to imparting dental knowledge, the dental education in the medical school at that time also had an important way in cultivating the medical students to acquire the dental clinical practice skills.

In 1914, the Taiwan Government Medical School hired Dr. Kaname Ansawa, the first dental teacher in Taiwan, to teach the subject of "Dentistry and Clinical Practice" for the fourth-year medical students. This started the history of compulsory dental courses for the medical students in Taiwan. In 1939, the Faculty of Medicine of TIU established a dental discipline (so-called dental classroom) to take charge of dental-related courses, internship, and graduation examination for their medical students.^{3,4} In the old university "chair" (lecture) system of Japan, the chair is the most basic teaching and research unit of the universities, which is equivalent to today's research laboratory.^{1,2} Therefore, Taiwan began to have university-level dental teaching and research unit in 1939 when the Chair of Dentistry was established in the Faculty of Medicine of TIU. After the World War II, various chairs in the Faculty of Medicine of TIU were transformed into the divisions of basic or clinical medicine under the College of Medicine of National Taiwan University (NTU). The Chair of Dentistry was no exception.¹ However, the new post-war government did not continue the old system. The Division of Dentistry in the College of Medicine of NTU had a different development trajectory from other medical sub-disciplines. As a teaching unit for the medical students, its importance ceased and was replaced by the Department of Dentistry that was later established to specialize in training dentists. There are few studies on the development related to the Division of Dentistry in the College of Medicine of NTU. This article used the historical research method to unearth its development trajectory.

In this article, we collected the documents related to the descriptions of the Chair of Dentistry of the Faculty of Medicine of TIU and the Division of Dentistry of the College of Medicine of NTU as much as possible, and screened the important events involving the evolution of its historical staging to delineate this dental teaching and research unit and to excavate its development history, as shown in Fig. 1.

A university-level dental teaching and research unit (called the Chair of Dentistry) was established within the Faculty of Medicine of TIU in 1939, responsible for the teaching of the dental-related courses, internship, and graduation examination for their medical students. It has experienced the Japanese colonial period (Stage 1: 1939–1945), the Republic of China period (Stage 2: 1945–1949), and the Taiwan period (Stage 3: 1949 till now). After the World War II in 1945, Taiwan entered the Republic of China period, and with the retreat of the Kuomintang government to Taiwan in 1949, and then it entered the Taiwan period. For these 3 periods, the government that manages universities in Taiwan changed from the Taiwan Government (Governor General Formosa) of Empire of Japan to the post-war Taiwan Provincial Government, and then the Ministry of Education of Taiwan until now. After the World War II, the new government took over TIU and changed its name to NTU. Moreover, this dental teaching and research unit was transformed from the Chair of Dentistry under the Faculty of Medicine of TIU (Stage 1: 1939–1945) to the Division of Dentistry under the College of Medicine of NTU (Stage 2: 1945–1973), and the Division of Dentistry under the Department of Medicine of NTU (Stage 3: 1973–2000). This is because the post-war medical students of NTU were directly under the management of the College of Medicine of NTU. It was not until 1973 that the Ministry of Education required NTU to establish the Department of Medicine as a department that directly manages the medical students. In 2000, however, the Division of Dentistry was reorganized into the Division of General Medicine, and the independent Division of Dentistry ended. Among the former chairs of the Faculty of Medicine of TIU, following the Chair of Health, Dentistry was another unit that disappeared due to a system change.

The teaching staff of the Chair of Dentistry had 4 dental teachers (one associate professor, one lecturer, and two teaching assistants) during the Japanese colonial period. After the World War II, there was only one dental teacher. Until the Department of Dentistry of NTU was established and had its own third-year dental students above in 1957, this dental unit no longer had a dedicated teaching staff, because the dental teaching staff belonged to the Department of Dentistry. For the dental-related courses, internship, and graduation examination, the medical students of TIU were required to take the dental courses "Dentistry and Oral Surgery" with 4 credits in total. They must participate in the dental internship before graduation and pass the graduation examination to graduate, while "Dentistry and Oral Surgery" was also one of the subjects in their graduation examination. However, the post-war medical students of NTU were required to take a one-credit dental course "Introduction to Dentistry", while this course was last performed in 2011, and then it was no longer held. They must also participate in the dental internship, while this internship was last performed in 1963, and then it was no longer held. In addition, there was no regulation related to the graduation examination for the post-war medical students of NTU.

After the first dental college (Baltimore College of Dental Surgery) was established in the United States in 1840, the dentistry and medicine developed into two independent professions and gradually drifted apart. In the

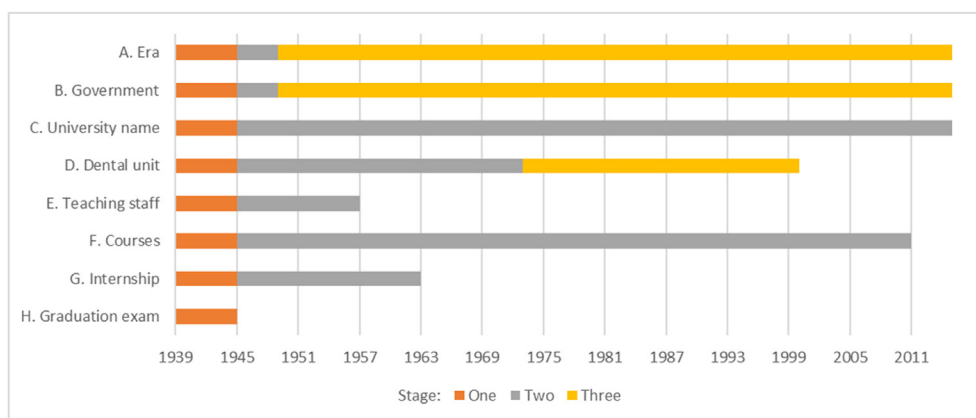


Figure 1 The evolution of dental teaching and research unit for the medical students from Taipei Imperial University to National Taiwan University (1939–2000). A. A university-level dental teaching and research unit for the medical students was established in Taiwan in 1939. It has experienced the Japanese colonial period (Stage 1: 1939–1945), the Republic of China period (Stage 2: 1945–1949), and the Taiwan period (Stage 3: 1949 till now). B. The government that manages universities in Taiwan changed from the Taiwan Government (Governor General Formosa) of Empire of Japan (Stage 1: 1939–1945) to the post-war Taiwan Provincial Government (Stage 2: 1945–1949) and further to the Ministry of Education of Taiwan (Stage 3: 1949 till now). C. The name of this university, which has a dental teaching and research unit for the medical students, was changed from Taipei Imperial University (TIU) (Stage 1: 1939–1945) to National Taiwan University (NTU) (Stage 2: 1945 till now). D. This dental teaching and research unit was transformed from the Chair of Dentistry under the Faculty of Medicine of TIU (Stage 1: 1939–1945) to the Division of Dentistry under the College of Medicine of NTU (Stage 2: 1945–1973) and further to the Division of Dentistry under the Department of Medicine of NTU (Stage 3: 1973–2000). In 2000, the Division of Dentistry was reorganized into the Division of General Medicine, and the Division of Dentistry ended. E. The teaching staff of this dental teaching and research unit had 4 dental teachers (one associate professor, one lecturer, and two teaching assistants) during the Japanese colonial period (Stage 1: 1939–1945). After the World War II, there was only one dental teacher (Stage 2: 1945–1957). Until the Department of Dentistry of NTU was established and had its own third-year dental students above in 1957, this dental unit no longer had a dedicated teaching staff. F. The medical students of TIU were required to take the dental courses “Dentistry and Oral Surgery” with 4 credits in total (Stage 1: 1939–1945), while the medical students of NTU after the World War II were required to take a one-credit dental course “Introduction to Dentistry” (Stage 2: 1945–2011). This course was last performed in 2011 and then it was no longer held. G. The medical students of TIU must participate in the dental internship before graduation (Stage 1: 1939–1945), while the medical students of NTU after the World War II must also participate in the dental internship (Stage 2: 1945–1963). This internship was last performed in 1963 and then it was no longer held. H. The medical students of TIU must pass the graduation examination to graduate (Stage 1: 1939–1945), and the “Dentistry and Oral Surgery” was one of the subjects of the graduation examination. However, there was no regulation related to the graduation examination for the medical students of NTU after the World War II.

clinical dentistry, the concept of the oral-systemic link has been emphasized repeatedly, which includes awareness of problems and connections between the oral and general health, avoiding the physical distress caused by the dental treatment, and understanding the risk of treating dental patients with systemic diseases.⁵ However, the separation of medical education and dental education indeed has serious negative implications for the delivery of oral health care.

Due to historical coincidence, Taiwan’s medical system during the Japanese colonial period did not have dental school education to cultivate dentists. Therefore, a relatively complete dental education for the medical students had been developed in the medical education system in those days. The Chair of Dentistry of TIU had rich teaching staff to be responsible for teaching dentistry for the medical students and the research related to dentistry. In the four-year medical courses at that time, the fourth-year medical students of TIU were required to take the dental courses “Dentistry and Oral Surgery” with 4 credits in total and were also required to participate in the dental internship before their graduation. In addition, they must

pass the graduation examination to graduate, while “Dentistry and Oral Surgery” was one of the subjects of their graduation examination. This indicates that the dental education for the medical students during the Japanese colonial essentially played a role in cultivating the medical students to acquire dental knowledge and dental clinical abilities and skills.

In fact, the benefits of studying dentistry by the medical students are not only for the medical education, but also for the medical students to gain a more comprehensive understanding of the dentistry and oral and maxillofacial diseases, and this knowledge is very helpful for the future medical practice. In addition, the dental and oral health knowledge can also enhance the concepts of dental and oral health for the medical students themselves and let them to have positive attitudes toward personal oral care and prevention of oral and maxillofacial diseases.^{6,7}

During the Japanese colonial period, the dental curriculum for the medical students had the function of allowing them to be qualified to perform dental services after becoming physicians.^{3,4} However, such a medical education system no longer existed after the World War II.

Unfortunately, the function of the Division of Dentistry of the College of Medicine of NTU was no longer important after the war. The dental internship for the medical students was last performed in 1963, while the dental course for them was last performed in 2011. Counting from the first dental teacher coming to Taiwan in 1914, nearly a hundred years of the dental education for the medical students of NTU had finally come to the end. After the war, the Division of Dentistry of NTU only maintained one dental teacher until 1957 when the Department of Dentistry of NTU had its own third-year dental students above. The Division of Dentistry of NTU was eventually abolished in 2000, ending its history of more than 60 years.

According to our 2022 survey, there were 13 medical schools in Taiwan. Among them, there were 8 universities with both medical and dental schools. Of the 13 medical schools, 6 (46.15%) offered dental curriculum for their medical students in the 2022 academic year. Moreover, 4 (50%) of 8 medical schools with a dental school on the same campus and 2 (40%) of 5 medical schools without a dental school offered dental curriculum to the medical students.⁸ However, in a 2009 national survey of 88 medical schools in the United States, 9 (10.23%) of 88 medical schools did not offer any oral health courses for their medical students.⁹ In Taiwan, currently, the opportunity was indeed very rare for the medical students to learn about oral medicine. Of the 13 medical schools, 7 (53.85%) did not offer any oral health courses for their medical students, indicating that the problem of separation of the medical and dental educations is a serious problem in Taiwan.

In order to provide complete medical care including oral care to the patients, the cooperation between the medical and dental staffs is often required. The dental courses can provide knowledge that bridges the oral health to the total body health.⁶ For this reason, developing a consistent standard of syllabus and teaching materials of the dental courses for the medical students and promoting it in the medical schools in Taiwan is a precise direction of development in the future. In fact, a comprehensive dental specialist system has been implemented in Taiwan, and a wealth of professional dental teachers can be expected.¹⁰ Therefore, a dental teaching and research unit for the medical students established in the medical schools is a feasible and precise direction. In addition, a well-planned dental curriculum for the medical students is an achievable goal.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

Acknowledgments

None.

References

1. Chang HJ. *National Taiwan university college of medicine (1945-1950)*. Taipei, Taiwan: National Taiwan University, 2013 [In Chinese].
2. Suzuki T. *The research on Taiwan's medical legal system during the Japanese colonial period - centering on the cultivation and structure of physicians*. PhD Thesis. Taipei: National Taiwan Normal University Department of History, 2014 [In Chinese].
3. Cheng FC, Wang LH, Ozawa N, Chang JYF, Liu SY, Chiang CP. Development of dental education for medical students in Taiwan during the Japanese colonial period. *J Dent Sci* 2022; 17:903–12.
4. Cheng FC, Wang LH, Ozawa N, Chang JYF, Liu SY, Chiang CP. Dental education and special dental practitioner-cultivating system in Taiwan during the Japanese colonial period. *J Dent Sci* 2022;17:920–7.
5. Cheng FC, Huang GF, Wang YL, et al. The implication of integrating pediatric education into a pediatric dentistry course for undergraduate dental students. *J Dent Sci* 2023;18:1794–803.
6. Lin HP, Wang LH, Lin TC, Cheng FC, Chiang CP. Oral medicine education for medical students - a retrospective evaluation of the course in MacKay Medical College from 2016 to 2021. *J Dent Sci* 2022;17:1292–9.
7. Kawa SA, Fakhruddin KS, Rehman BU. A comparative study of oral health attitudes and behavior between dental and medical students; the impact of dental education in United Arab Emirates. *J Int Dent Med Res* 2010;3:6–10.
8. Cheng FC, Wang YL, Chiang CP. Dental curriculum for medical students in Taiwan: a preliminary survey. *J Dent Sci* 2024;19: 747–50.
9. Ferullo A, Silk H, Savageau JA. Teaching oral health in U.S. medical schools: results of a national survey. *Acad Med* 2011; 86:226–30.
10. Cheng FC, Wang LH, Wang YL, Chiang CP. Overview of the dental specialist system in Taiwan. *J Dent Sci* 2023;18: 1909–11.