Review article

Developing role of dental hygienists in Japan

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Summary In Japan, the profession of the dental hygienist was created at the behest of GHQ in 1948, and as such forms part of the occupation’s contribution to public health against a backdrop of postwar politics. The law was revised seven years later, allowing dental hygienists to assist in dental practice, particularly at dental clinics/hospitals.

The number of dental hygienists currently exceeds 100,000, which is greater than the number of both dentists and dental technicians. This may reflect the inclusion of insurance-covered dental health guidance as part of their duties. Indeed, it has been confirmed that dental clinics with more dental hygienists make higher profits.

Revision of legislation relating to dental hygienists enhanced demand for dental hygienists and led to an increase in the number of training institutions for dental hygienists, longer duration of training, and more four-year colleges.

Therefore, the Japan Dental Association and Japanese Association of Dental Science undertook a review of the scope of the duties of the dental hygienist.

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Contents

1. Introduction .......................................................... 135
2. Inception of dental hygienist training .............................. 136
3. Revision of Dental Hygienist Act and addition of right to assist in dental care ............................................. 138
4. Extended duration of training; addition of right to provide dental health guidance; national health care insurance ..... 139
   Acknowledgement ......................................................... 140
   References ................................................................. 140

1. Introduction

The number of dental hygienists working in Japan exceeded 100,000 in 2010 (Fig. 1). Moreover, the number and speed of increase in that number have surpassed those of dentists and dental technicians [1]. This indicates the growing importance of dental hygienists in dentistry in Japan and increase in public demand for their services.

Approximately 70% of dental hygienists in the 1990s were in their twenties, suggesting that this occupation mainly attracted younger people at that time. However, about 30 years ago, a newly-graduated dental hygienist would leave

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the profession after only a few years. The current number of dental hygienists in their twenties has decreased by half, to approximately 35% (Fig. 2). The current increase in the number of dental hygienists, then, is attributable to an increase in middle-aged or older dental hygienists [1].

Most dental hygienists currently work at a dental clinic/hospital, and the number is increasing [1]. No increase, however, has been observed in the number of dental hygienists working in administration or at training institutions. This indicates an increase in demand for experienced dental hygienists at dental clinics/hospitals, reflecting patient interest in receiving high-level preventive treatment, assistance in dental practice, and dental health guidance.

Research by both the Ministry of Labor and Welfare and Japan Dental Association suggests that clinics/hospitals with more dental hygienists are more profitable (Fig. 3). Furthermore, it was clarified that dental clinics/hospitals which employed dental hygienists earned more income from non-national health insurance-covered dental treatment than clinics/hospitals that did not [2,3]. It was also clarified that more dental clinics/hospitals are hiring dental hygienists (Fig. 4).

2. Inception of dental hygienist training

Training of dental hygienists began in the U.S. in 1913, approximately 100 years ago [4], and was introduced in Japan in 1915 [5]. The School of Medicine at Keio University, the Niigata Dental Association and the Lion Children’s Dental Clinic independently attempted to train dental hygienists.
in 1918, 1921 and 1922, respectively [6]. However, this did not lead to nationwide popularization of dental hygienists or legislation.

In 1946, the General Headquarters of the Allied Forces (GHQ) led by the U.S. army recognized the need to train dental hygienists in Japan. It is interesting to note that the type of dental hygienist proposed was not the American type or any type previously attempted in Japan [7]. American-style dental hygienists working at dental clinics/hospitals are mainly involved in preventive treatment, and in Japan dental hygienists had hitherto been solely concerned with prevention and assistance. Under the law prepared with the guidance of the GHQ in 1948, however, dental hygienists were now only allowed to provide preventive treatment and be employed at designated health centers. These health centers were stipulated under further legislation in 1948 under the direction of GHQ.

Under the Dental Hygienist Act enacted in 1948, dental hygienists were to be licensed by the governor of each prefecture, and were only permitted to provide preventive treatment under the direct supervision of a dentist. "Preventive treatment" included mechanical removal of adhesions and deposits from the exposed surfaces of the teeth and healthy subgingival areas and application of medical preparations to the teeth and oral cavity. Such treatment was designated as the exclusive province of the dental hygienist,

![Figure 3](image3.png)

**Figure 3** Transition of difference between income and expenditure at dental institutions by number of dental hygienists.

![Figure 4](image4.png)

**Figure 4** Transition of income from uncovered dental treatments by number of dental hygienists.
with punishment stipulated if illegally conducted by anyone without the requisite qualifications.

"Direct supervision" was stipulated in the Dental Hygienist Act because of the urgent need to assign dental hygienists to health centers. Originally, the Ministry of Health and Welfare (currently, the Ministry of Health, Labor and Welfare) had envisaged a two-year training course. This was later changed, however, to allow graduation after only one year and care to be performed under the direct supervision of a dentist. Currently, training to be a dental hygienist requires a minimum of three years, with some colleges offering four-year courses, reflecting a major shift in policy. Given these circumstances, "direct supervision" came to be a redundant requirement.

3. Revision of Dental Hygienist Act and addition of right to assist in dental care

Legislation regarding dental hygienists was initially formulated on the assumption that they would provide preventive dental treatment at health centers as public servants. From 1950 onwards, the hygienist would commence work after only one year of formal training. Few health centers, however, required their services during the chaotic post-war period, the focus being on handling outbreaks of acute infectious diseases and taking care of returning military and civilian personnel. Therefore, only 25% of dental hygienists worked at health centers in 1953, three years after the inception of the new system. Among 131 dental hygienists who graduated in 1954, approximately only 8% went to work at health centers, with nearly half working at dental clinics/hospitals. Thus, government policy on these matters required some review only five years later (Fig. 5).

Under the Public-Health Nurses, Midwives and Nurses Act enacted in 1948, the same year as the enactment of the Dental Hygienist Act, medical and dental assistance was stipulated as the exclusive province of nurses. Therefore, a dental hygienist could only provide preventive dental treatment, even if they worked at a dental clinic. "Assistance" included simple impression-taking, the application and removal of temporary seals, the packing of filling materials and polishing, and it would have been illegal for a dental hygienist to perform any of these services. Nonetheless, it was rare for a nurse to work at a dental clinic/hospital. Providing such assistance was stipulated as the sole province of nurses from 1947, before which nurses had never been required to undertake such activities.

Therefore, the Dental Hygienist Act underwent radical revision in 1955, when it became a matter of urgency to re-legislate assistance in dental practices [7]. Under the Public-Health Nurses, Midwives and Nurses Act, providing assistance in dental clinics/hospitals had been the exclusive territory of nurses. Now, however, dental hygienists could also provide this service.

The Public-Health Nurses, Midwives and Nurses Act stipulated that nurses could not provide medical care with the potential to cause harm such as that which would normally be provided by a dentist or physician—use of dental apparatus, administration or instruction on use of drugs, for example—except under authorized supervision. This meant that nurses could not perform medical procedures at their own discretion, but could perform such procedures if instructed by a doctor or dentist. Under the new Dental Hygienist Act, however, hygienists were legally given equal status with nurses in terms of providing dental assistance in dental clinics/hospitals. The implications of this will be discussed further later on.

![Graph](image_url)

**Figure 5** Employment status of dental hygienists Comparison between employment status in October 1953 and employment of new graduates in April 1954.
Due to this revision of the Dental Hygienist Act in 1955, the number of dental hygienists working at dental clinics/hospitals increased. The number of dental hygienists in training also increased, leading to rapid increase in graduates. The number of dental hygiene schools increased slightly later, after 1960. As providing assistance in dental clinics/hospitals had been added to the duties required of a dental hygienist, the curriculum and volume of training changed, leading to an increase in the amount of time devoted to training in clinical dentistry, assistance in dental treatment and clinical training. The duration of training should have been increased to two years or longer at that time, but this was not possible due to lack of capacity in the system itself.

Some confusion ensued after dental hygienists gained the right to provide assistance in dental clinics/hospitals, and the Ministry of Health and Welfare was forced to issue a number of pronouncements on this issue. For example, after receiving some major complaints, wax pattern investment, inlay, and crown placement were stipulated as acts not to be performed by a dental hygienist, even under the supervision of a dentist [8]. However, no official pronouncements were made on individual cases, reflecting the need to allow for some flexibility given the various needs of the dental clinic/hospital. On the other hand, in 1980, the Osaka Superior Court ruled that the provision of a number of procedures by a dental hygienist, including cavity preparation, root canal treatment, and nerve extraction, even under the supervision of a dentist, constituted a breach of the Dentist Act, and the defendant was found guilty.

4. Extended duration of training; addition of right to provide dental health guidance; national health care insurance

In 1983, it was decided that training for dental hygienists should require a minimum of two years, and in 1989 a further revision of the Dental Hygienist Act changed the licensing requirements from “licensing by a local governor” to “licensing by the Minister of Health and Welfare.” Dental health guidance was also added as a new and exclusive duty of dental hygienists due to a significant change that now allowed such treatment to be covered by national health care insurance. First of all, guidance to be provided by the dental hygienist at the patient’s home (for the elderly requiring care and unable to visit a clinic) was assessed in 1990; next, guidance for patients with periodontal disease was explicitly specified in the fees for dental treatment in 1992. Therapy aimed at recovery of eating function was newly established as part of dental rehabilitation in 1994, and was to be performed by dental hygienists in dental clinics/hospitals under the supervision of a dentist.

Allowing the work of dental hygienists to be covered by health care insurance also led to an increase in the number of dental hygienist schools. Cover of periodontal treatment by insurance was significantly revised in 1980, leading to an increase in the frequency of such treatments (Fig. 6). This trend underlay the rapid increase in the demand for dental hygienists after 1990, as they were now able to assist in providing such care. Demand for dental hygienists further increased with heightened public awareness of periodontal disease.

Figure 6  Number of dental hygienist training schools. (1) Assistance in dental practices was added to the duties of dental hygienists. (2) The duration of training for dental hygienists was stipulated as two years or longer. (3) License was stipulated to be given by the Ministry of Health and Welfare, and dental health guidance was added to the duties of dental hygienists. (4) Dental health guidance by dental hygienists was assessed by the health care insurance. (5) The duration of training for dental hygienists was stipulated as three years or longer.
The Ministerial Ordinance was revised again in 2004, and training now required a minimum of three years. Taking this opportunity, four-year colleges for dental hygienists were established and currently there are eight such colleges.

This increase in the duration of training led to a discussion on expanding the duties of the dental hygienist. The Japan Dental Association established a Special Committee in 2005 to undertake such a review, and the opinions gathered were then passed on to the Japanese Association for Dental Science, the academic authority on dentistry in Japan. The Japanese Association for Dental Science undertook its own review in 2006, further requesting opinions on this matter from 13 clinically-related societies in 2006. Whether or not an individual act breaches the Dentist Act is judged by a court. The legal interpretation of the duties of dental hygienists falls under the remit of the Ministry of Health, Labor and Welfare. The views of the Japanese Association for Dental Science, however, may influence future amendments to the relevant laws. The Japan Dental Association publicized the views of the Japanese Association for Dental Science on the duties of dental hygienists in the Journal of the Japan Dental Association in 2009 [9].

Conflict of interest statement

We declare no conflict of interest.

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References