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Establishing dental hygiene education in Germany: current facts and future perspectives

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Abstract: As there is a marked need to increase the number of dental hygienists (DHs) working in German dental practices, efforts are being made to establish dental hygiene education in accordance with international standards. However, as current German legislation does not envisage a perennial full-time training programme, dental hygiene education may currently be provided within a modular concept only. The basic qualification for enrolment in a modular hygienist training programme of this kind is accredited vocational training as a dental assistant (DA), followed by board-certified continuing education as an oral prophylaxis assistant. Thus, the current system of advanced training for qualification as a DH is subject to at least 6 years' work experience in the field of dentistry. A 950-h full-time advanced training course, meeting all the requirements of this concept, was established by the Westphalia-Lippe Dental Association in cooperation with the University of Münster. The curriculum underlying this programme was outlined considering the recommendations for dental hygiene education issued by the European Federation of Periodontology, although reduced in standards to comply with current German legislation. In addition, the recommendations for American Dental Hygiene education by the American Dental Association were used as a guide for programme development. The contents and implementation of the Münster Dental Hygienist Curriculum may allow the professional competence generated during practical work experience to be linked with international requirements of dental hygiene education.

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Key words: dental hygiene education; dental hygienists; Germany; modular system

Legislative background of dental hygiene education in Germany

Dental hygienists (DHs) with an international diploma have been working since the 1970s in German dental practices (1).

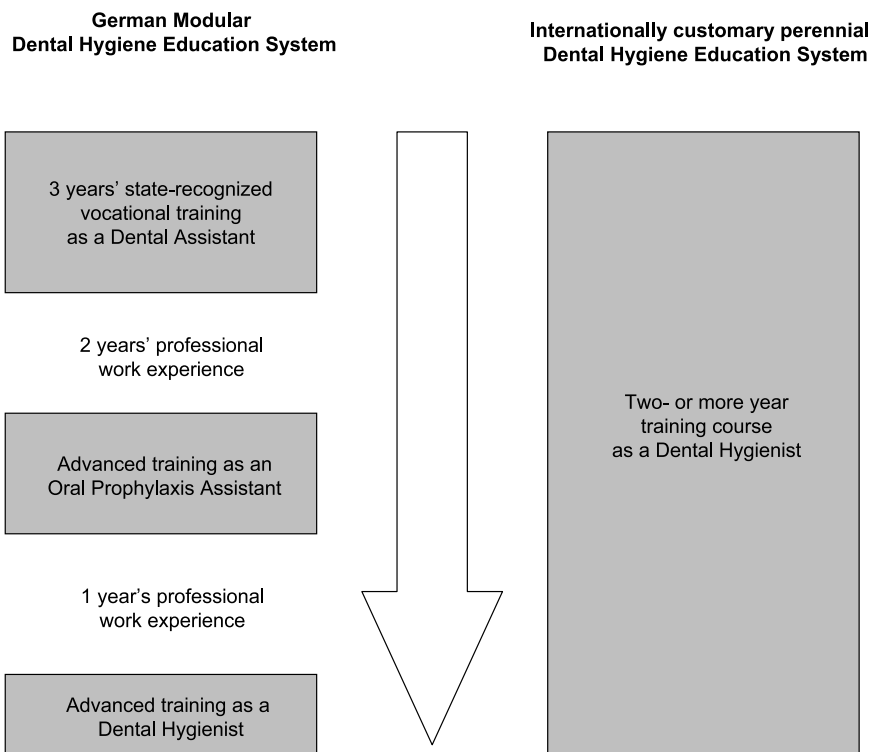


Fig. 1. Comparison of the modular dental hygiene education concept and a perennial course concept.

However, structured dental hygiene education in Germany did not begin until 1999. It was the outcome of a petition submitted to the German parliament in 1997 by a DH with a US-American diploma, who was applying for recognition of the freelance profession of DH and a uniform concept of dental hygiene education. In response to this petition, the job description of DHs was officially recognised in Germany. All educational aspects, however, were considered to be the responsibility of the Regional Dental Associations (Landeszahnärztekammern) in the different federal states within Germany.¹ The at-the-time major German Dental Hygienists Association (DDHV) was integrated in that process in an advisory function only. The decision of the national German Dental Association (Bundeszahnärztekammer), the superordinate administrative body of the Regional Dental Associations, was to establish a model of advanced training courses rather than to introduce a dental hygiene education programme lasting 2 years or more. In brief, this concept allows

accredited dental assistants (DAs) with at least 6 years' work experience and approved levels of continuing education in the practical and theoretical fields of dentistry, i.e. oral prophylaxis assistants, to study further to become a qualified DH (Fig. 1) (2). This modular concept was considered to comply most reasonably with the situation in the vocational field of DAs in Germany. A major point in favour of this concept was that the longstanding professional experience of DAs was taken into account, thus dispensing with the need for these already highly qualified persons to repeat parts of the basic dental education (3, 4). Secondly, it was unclear whether sufficient state-aided or private funds could be raised to finance a cost-intensive perennial education programme.

In the context of legislative aspects, it is important to note that the German Vocational Training Act makes a clear distinction between vocational training and advanced training (5). The former means state-regulated basic job training to provide practical and theoretical prerequisites for taking on a professional position or achieving a vocational qualification. In contrast, advanced training is subject to a pre-existing vocational qualification and the presence of specific skills and extensive work experience. In the professional field of DAs in Germany, advanced training courses for DAs to become Oral Prevention Assistants (OPAs) or DHs are typical examples as well as important parts of this qualification concept and are described briefly below.

¹The German Dental Association (Bundeszahnärztekammer) is the professional representation of all German dentists at state level, recognised, federal level. Members of the German Dental Association are the Dental Associations of the federal states (Landeszahnärztekammern), which send delegates to the Federal Assembly, the supreme decision-taking body of the German Dental Association. The representatives and members of the German Dental Association are elected by the dentists and represent their health-political and -professional interests towards politics, media and the broad public at Federal level. (More information can be obtained at <http://www.bzaek.de>)

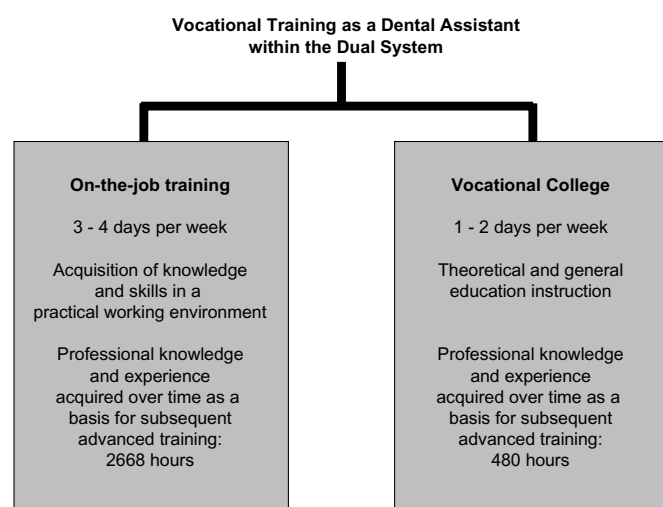


Fig. 2. Main contents of the vocational training for DAs.

Initial vocational training as a DA

The goal of the initial vocational training as a DA is to provide the necessary professional qualification, such as the learning of professional skills, abilities and knowledge to enable the person concerned to deal with the practical tasks occurring in the work process at a dental practice. At the same time, all aspects of socialisation directly connected with the qualification, such as the orientations, attitudes and behavioural standards required for the professional position, are imparted. The DA thereby acquires the qualification and the special professional understanding associated with it through a nation-wide, state-regulated, structured 3-year course of training under the so-called dual system, i.e. a combination of practical on-the-job training and compulsory attendance at a state-run vocational college (Fig. 2).

Within the dual system, the dentist as employer is the main person responsible for providing the practical training required for the profession, while the vocational college provides primarily the theoretical training and a continuation of general education studies. In reality, the distinction between the two functions is less sharply defined; moreover, such a sharp differentiation would not be sensible. The vocational college teaching is not wholly academic, while the on-the-job training is not devoid of all theory. About three-quarters of the time covered by the training programme is spent on the job, and about one-quarter at vocational college. Starting from 1 August 2001, these statutory regulations will apply to all dental practices in Germany (5, 6). The qualification is subject to 3 years' training and is state-recognised.

The primary vocational training combined with practical experience forms the foundation for subsequent further training. As a consequence, the initial vocational training is the funda-

mental prerequisite for the ability to undergo advanced training to become a qualified DH.

Advanced training as an OPA

While the main function of a DA is to assist the dentist during therapy, the goal of further training for the qualification of OPA through an advanced training course is to provide a higher vocational qualification, which enables qualified activities to be performed on a delegated basis within a legally permitted scope (6). Such activities include, for example, supra- and subgingival debridement during periodontal maintenance therapy. In addition, qualified information and instruction in the fields of oral health education, preventive measures and information, using appropriate communication and education methods, are within the OPA's sphere of competence. Another task is to motivate patients to change their behaviour through instruction and methodological supervision. At the administrative level, OPAs should have advanced skills allowing them to organise the operational procedures within the dental team as a whole. Thus, concerning both the aspect of practical work and intellectual demands, among other things the major differences between OPA and DH is the fact that the DH performs the whole spectrum of non-surgical periodontal therapy apart from the administration of anaesthesia and antibiotics.

Under the rules of vocational training policy, responsibility for further training qualifications rests with the regional dental association. Therefore, the description of the content, structure and methodology of the further training programme for qualification as an OPA may differ slightly among the various federal states within Germany. As an example, the course structure of the advanced training to become an OPA, as prescribed by the Westphalia-Lippe Dental Association, is outlined briefly in Fig. 3. The successful completion of an advanced training course for qualification as an OPA is one of the major prerequisites for admission to advanced training as a DH.

Advanced training as a DH

Dental hygienist education as implemented in many countries, e.g. in Switzerland, Sweden or the USA, is characterised by a combination of classroom training and clinical education lasting at least 2 years, with a person with no prior knowledge in the field of dentistry able to graduate as a DH after having successfully completed the programme. In contrast, the sole concept of DH education in Germany at present is based on the initial vocational training in combination with subsequent advanced training programmes (3, 4). The goals and objectives of the

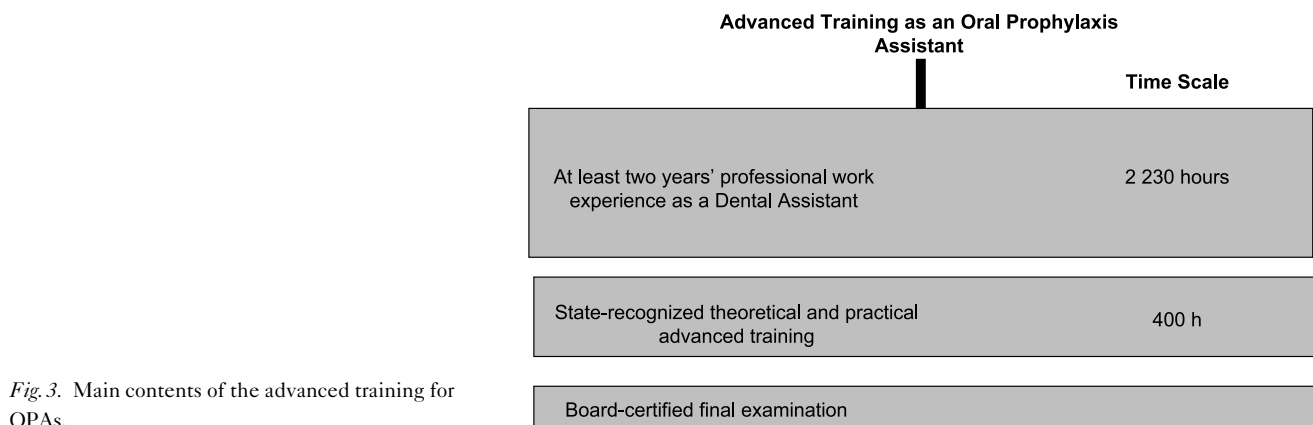


Fig. 3. Main contents of the advanced training for OPAs.

modular dental hygiene education concept, however, are the same as in education programmes conducted in other countries. In the year 2003, modular dental hygiene education courses are offered in Germany in Hamburg (responsibility: Hamburg, Schleswig-Holstein and Mecklenburg-Western Pomerania Dental Association), Münster (responsibility: Westphalia-Lippe Dental Association and the University of Münster) as well as Stuttgart (responsibility: Baden-Württemberg Dental Association). A course in Frankfurt is reported to be in preparation. Because of the diverse responsibilities of the respective dental associations and the fact that up to date there is no accredited DH representative in the national dental association, the contents and implementation of the above courses may vary considerably. It is beyond the scope and aim of this article, however, to compare or evaluate the different programmes. Instead, the curriculum, basic conditions and implementation of hygienist education as provided in Münster are described as an example (Fig. 4).

Programme development and budgetary accounting

The course concept in Münster was developed in the year 2000 within a formal planning and assessment process managed by the Westphalia-Lippe Dental Association. Within the scope of the relevant German legislation on dental hygiene education, it was outlined as far as possible according to the guidelines for dental hygiene education, as recommended by the European Federation of Periodontology (7) and the American Commission on Dental Accreditation of the American Dental Association (8). Although the Westphalia-Lippe Dental Association would, in principle, provide sufficient funding for the programme, it was envisaged in the financial budget that the programme should be designed as a self-financing, independent course. To employ an adequate number of qualified full-time faculty teaching staff and to provide appropriate equipment and teaching aids, a minimum of 13 dental hygiene students, each paying a course fee of €15 000 was

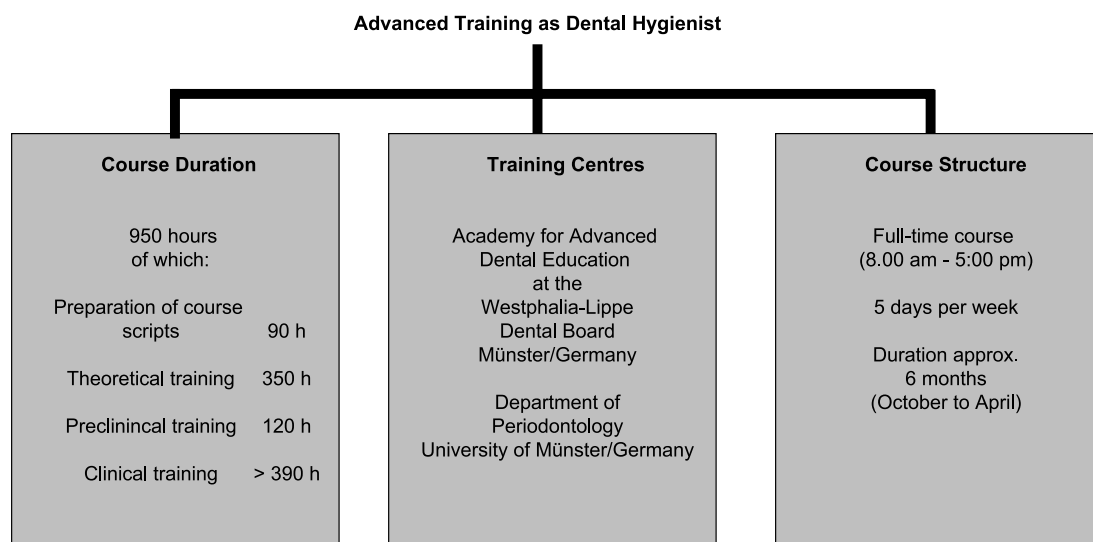


Fig. 4. Organisation, content and time structure of the advanced training for DHs.

considered necessary. Proper appropriation of the funds is subject to continuous monitoring by an independent auditing department of the Westphalia–Lippe Dental Association.

Institutional accreditation and cooperative structures

The function and legal status of the Westphalia–Lippe Dental Association within the programme as an institution of higher dental education are recognised by the Federal German Ministry of Health in consultation with the Federal German Ministry of Education and Research (5). The main programme administrator is a DH with international diploma, who is employed full time by the Westphalia–Lippe Dental Association in Münster. To further optimise the educational standard, the course is based on close cooperation between the Westphalia–Lippe Dental Association and the Department of Periodontology at the University of Münster. The roles and responsibilities of both institutions are formalised by means of a written agreement clearly defining the respective roles and responsibilities. Most preclinical and theoretical education is given on the premises of the Westphalia–Lippe Dental Association, while clinical education in terms of patient treatment is performed at the University. This structure guarantees the availability of suitable patients (i.e. with severe chronic or aggressive periodontitis) as well as constant and competent support in practical and theoretical education by periodontal specialists in accordance with the standards of the European Federation of Periodontology. In practical terms, this means that, within the agreement between the Dental Association and the University, one senior lecturer in periodontics has

full-time, permanent responsibility for hygiene education throughout the course to support the main administrator. The teamwork between these two main lecturers ensures that both the educational background and the professional experience required to fulfil the goals of dental hygiene education are present at an internationally compatible level.

Requirements for course admission

The requirements for admission to the course are, as outlined above, proof of at least 1 year's professional work experience as an OPA. Furthermore, evidence of the knowledge required pursuant to the German Radiology Regulations must be submitted to ensure appropriate handling and execution of oral radiographs. In addition, a 16-h course in cardiopulmonary resuscitation must be certified. Finally, a practical and theoretical aptitude test under the auspices of the Westphalia–Lippe Dental Association is required.

Curriculum content and management

For the Münster hygiene education programme, the course contents and their implementation are documented within a formal, written curriculum (Fig. 5). The course contents cover general education, biomedical sciences, dental science and dental hygiene science. An ongoing curriculum evaluation process by both educational staff and students allows the course content to be adjusted to take account of newly emerging information or superfluous repetition. More than 25 lecturers and teachers are involved in the training course. Most are senior university lecturers; the others

Curriculum of the Munster DH Education

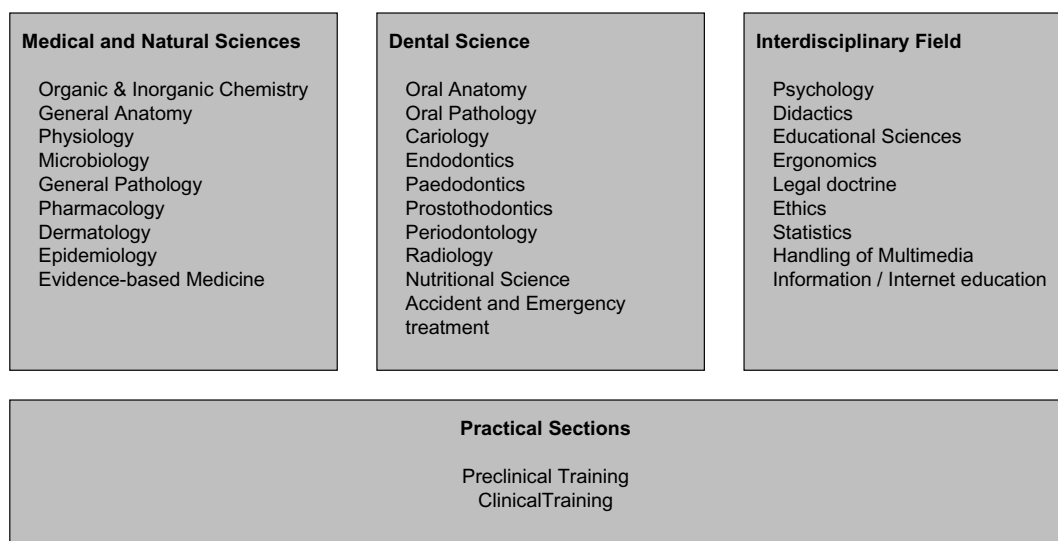


Fig. 5. Brief diagrammed summary of the curriculum of dental hygiene education in the modular system, as provided in Münster, Germany.

are high-school graduates who have successfully completed a state-recognised vocational training course. The individual qualification of the members of the teaching staff is demonstrated by their research involvement, their publications and their clinical experience. An ombudsman is designated for the students and the teaching staff, respectively, to deal with any disputes.

Approximately 400 of the 950-h total teaching time is devoted to practical clinical procedures. After brief preclinical training, the students perform practical treatment on patients attending the Department of Periodontology at the University of Münster under permanent supervision of the main administrative hygienist and a second teaching hygienist with an international diploma. As hygienists are not authorised to apply local infiltration or conduction anaesthesia according to German health legislation, all anaesthetic procedures are performed by a periodontist. Thus, the faculty-to-student ratio never exceeds one to six during practical clinical courses, which ensures intense clinical training.

As the Department of Periodontology cooperates with many other dental and medical departments at the University of Münster, the hygiene students gain profound knowledge in the management of medically compromised patients, i.e. after irradiation or chemotherapy. To increase the scope of patient experience, practical clinical work is also done in the fields of paediatric dentistry, geriatric dentistry and the treatment of physically as well as of mentally disabled patients.

Intermediate assessments and final examination

For the various subjects taught as outlined in the curriculum, intermediate assessments are performed by means of written examinations. The marks awarded in these examinations are recorded and will be taken into account in the student's final results. A final examination is held at the end of the 6-month training period. It encompasses a 6-h written examination, a 30-min oral examination and a practical examination. This practical examination is taken at the Department of Periodontology and consists of examining a patient in detail, developing a preliminary treatment plan and performing supra- and sub-gingival debridement. To ensure maximum objectivity, four examiners (two DHs, two periodontists) are involved.

Discussion and future prospects

Within the limits of the current relevant German legislation on dental hygiene education, the modular education system as exemplified in the curriculum pursued in Münster provides for dental hygiene education at a high-grade standard. The contents and implementation of this course were presented at the IFDH

board meeting in 2001 in Sydney, Australia, where a majority of the delegates appreciated the modular system as performed in Münster. Although being a sequential modular concept, it may offer a chance for highly qualified and trained staff to work as DHs. This is also important, as the possibility to continue studying may be an important aspect in enhancing the attractiveness of the profession of DA as well as DH. This may possibly contribute to meet relevant future societal demands for dental care, as an overall increase in the career opportunities available to women might discourage to designate the field of dental hygiene as a career choice (3, 9). The relatively high fee charged for the course, however, may discourage potential applicants. On the other hand, this fee is essential if a high level of education and the stability of the self-financing concept are to be guaranteed. Another advantage lies in the fact that the self-financing concept allows maximum independence from the local Dental Association, an institution that is traditionally highly influenced by the interests of the dental profession. It should be mentioned that other institutions in Germany are charging a notably lower course fee for their modular hygiene education programmes. It is beyond the competence of this article, however, to validate the various course concepts in any way. Moreover, the intent of this article is to describe the complicated legislative background in Germany and the consequential implications for dental hygiene education in order to clear and avoid possible misapprehensions concerning the modular system.

For those persons interested in the dental hygiene profession, but as yet not working as DA, it would seem reasonable to establish an education programme lasting 2 years or more in accordance with international standards. This should be seen as an important goal for future dental hygiene education in Germany. However, the need for and the value of the modular system should still be accepted further on. A possible solution could be to offer both, a modular and a perennial education independently, but side by side.

Overall, the German modular system of hygiene education offers a qualitatively high standard of hygiene education for the adequately qualified oral prophylaxis assistant. Despite its limitations, the value and scope of this advanced training system are clear. For the future, it is highly important that the national or international institutions engaged in hygiene education cooperate in the interests of furthering the development of dental hygiene practice in Germany.

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