

## A Trend of Post Graduate Clinical Training In General Dentistry: A Review.

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### Review Article

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#### ABSTRACT

The explosion of knowledge coupled with a more diversified society, have led to a new set of demands on dentists. All the clinical dental specialties require a high level of training and talent. Postgraduate training in general dentistry is becoming more widespread and being employed to attempt to deal with these concerns. The Nature of the trend is quit variable among countries and nations, on the other hand most of them had almost the same determining factors for the trend; creating a postgraduate experience , lack of adequate training/experience, and improve students quality. As any trend , post graduate clinical training in general dentistry has many advantages and disadvantages, on the other hand in application , pitfalls may be faced. For that reason , there should be guides for implication of the trend .

#### INTRODUCTION

The explosion of knowledge coupled with a more diversified society, have led to a new set of demands on dentists. All the clinical dental specialties require a high level of training and talent. Students are managing their patients, under the supervision, after graduation they have to carry this responsibility independently. For more than 20 years, dental educators and the profession have been concerned about the pressure on the university to ensure that every new graduate is fully competent to enter a dental practice independently and successfully. Postgraduate training in general dentistry is becoming more widespread and being employed to attempt to deal with these concerns <sup>[1]</sup>.

The continuous evolution of the dental curriculum presents a major challenge to faculty, administrators, because of the high cost, overcrowded schedule, unique demands of clinical training, changing nature of assessment programs, and wide scope of new material in all areas of the educational program. Additionally, there is a need of personnel with adequate training/experience in both basic and clinical sciences to support the effective application and/or integration of new science information into curriculum planning, implementation, and assessment processes.

The law of dental practitioners (in Japan), stipulates that (clinical training must be designed to allow dentists to develop an attitude appropriate as a dentist, understand the social role that dental science and dental service are expected to play, and acquired basic diagnostic and therapeutic ability regardless of the specialties that they will pursue in the future so that they can appropriately treat injuries or diseases frequently encountered in general practice <sup>[2]</sup>.

The philosophy of clinical training was the most important factors reported when selecting a specific program within a given field of dentistry. Commonest programs, which are combined into one option in USA. Both AEGD and GPR programs increase the graduate Competence, confidence in clinical skills, learn how to deal with medically compromised patients, and later they will have more chance to in role with specialty programs and a hospital-based practice.

## Nature of the trend

**In Japan**, the dental postgraduate clinical training program was systematized and become compulsory in 2006.

Clinical training can only be completed at a single-type facility, but is also being implemented at group-type facilities (combined clinical training at management-type and cooperative-type facilities). Postgraduate clinical training is already being implemented in many facilities. The distribution of such clinical facilities is considered to have an effect on the courses taken by dental residents after the completion of postgraduate clinical training [3].

In Tokyo dental collage, chiba hospital, training is divided into 3 units, that cover training in general dentistry, specialized training and training in cooperation/type clinical training institutions respectively. The course consist of treatment at the outpatient clinic and the following: 1- clinical training (preparation of written treatment plan, simulation practices, submission of evaluation sheets and submission of training journals) 2- tutorials 3- case reports [4].

In order to encourage dentists in participating continuing professional education and provided with recent dental knowledge and skill to maintain a high-quality dental service, participation in the continuing professional development (CPD) program, in Hong Kong is on a voluntary basis, dentists in the **UK, US, and Canada** are required to participate in such programs. The CPD activities in the UK like vocational training. Vocational training has been mandatory since October 1993 and requires trainees to work in a trainer's practice to gain extra clinical experience for 1-2 years after receiving their degree. practice totally unsupervised [5,6,7].

One year vocational training have been organized throughout the UK now mandatory , training will be under approved supervision and will have to be completed before a dentist is permitted to become a principal in a general dental practice. Several years later they add "After graduation, a dentist should complete two years of training under approved supervision before being permitted to become a principal in a general dental practice".

**In USA**, they suggested that major attention should be directed to postdoctoral education in general dentistry - requiring one year,(the process passed in 3 phases of development). The contributions of the one year postdoctoral hospital general practice residencies (GPR) and the newer advanced education programme in general dentistry (AEGD) now being offered by several schools need to be considered in attempting consensus on the length of education necessary for licensure for general practice.

**In Sweden**, A mandatory pre-licensure year of general practice training (may or may not include academic study ) in a community clinic under the leadership of a specially trained community dentist, after the dental education that comprises four and one-half years at a dental school. Students must pass an examination at the end of this year in order to be licensed for practice.

**In New Zealand** stated that the undergraduate curriculum needs to be decompressed to focus on learning and to achieve of competency. The academic year would have to be lengthened to meet this aim, but this failed because of cost, otherwise , time is available because academic year in New Zealand being short relative to Europe and the USA , they endorsed the setting up of a three-years -time Postgraduate Diploma in Clinical Dentistry by distance learning, it could improve the competency of GPs while they remained in their practices, in their countries.

**In Australia**, advanced/vocational training for new dental graduates, mandatory or voluntary continuing dental programs.

**In Sydney** the dental school provides two -degree programme, each in three years, first in basic and preclinical sciences, second in clinical dentistry. Variety of short-term graduate diploma programme in specific area for GPs that cannot be adequately covered during the undergraduate course.

**In Thailand**, training GPs in one-year Graduate Diploma program in General Dentistry. They adapt the philosophy of prevention and comprehensive care, and to expand dentist contributions to primary health care.

**Vocational training schemes in UK**, one year. During this year the trainee would work in the sheltered environment of his trainer's practice and be exposed to the educational experience of a formal day release course. First established as a one year voluntary scheme, now it's mandatory. In 1982, a second year of vocational training was envisaged.

## Advanced general dentistry education programmes

### General Practice Residency (GPR)

The GPR was defined by the Commission standard as an educational programme designed to provide advanced clinical and didactic training in general dentistry and intensive hospital experience at the postdoctoral

level <sup>[4]</sup>. Its sponsored either by a hospital or by another institution of higher learning that is affiliated with a hospital. A 'central and substantial portion' of the residency training programme must take place in the hospital environment. GPR programme requires that two clinical specialties be emphasized and the programme provided some advanced training and clinical experience in all other dental specialties. Trainee should spend a minimum of 60 % of their time in direct delivery of oral health care. It's for one year, if it's two, the second year offered on an elective basis.

### Advanced Education in General Dentistry Program (AEGD)

This program provides advanced training in clinical dentistry and applied basic science, and to refine the skills necessary for the generalist to provide comprehensive patient care for all population groups. The curriculum required instruction and experience in almost all dental sciences, it's one -two years length, the trainee should spend most of his time in direct delivery of oral health care.

#### Determining factors

- Creating a postgraduate experience for each graduate dental student prior to independent practice. Dental educators are challenged to ensure that graduates are adequately prepared clinically to meet the demands of dental practice.
- Lack of adequate training/experience: because of the high cost, overcrowded schedule, unique demands of clinical training, dental students have limited opportunities of attaining the training goal of preparing a general practitioner capable of caring for the needs of an ageing and increasingly diverse population while managing the complexities of dental practice.
- Increasing numbers of teeth per person in all age groups, but particularly in the geriatric segment of population who are at increased risk for the development of caries and periodontal diseases, are expected to constitute major forces contributing to increased need for dental services for the foreseeable future.
- Governments has assumed an active role, in the effort to increase the proportion of dentists choosing general dental practice as a career, instead of specialty practice and has encouraged development and expansion of additional general practice training programs for this purpose.
- To improve student quality, the number of needed specialty and general postdoctoral positions, decreases in the applicant pool to dental education and resulting impact on Postgraduate education in General Dentistry (PGD) programs, and possible means of eliminating examinations in entry-level licensure <sup>[8]</sup>.
- To secure an adequate number of patients, widen the variety of cases, and increase the number of technical tasks. To be able to manage problems as they arise, cope with new circumstances, and be competent to adapt to future demands.
- Dental schools do not comprehend the scope of general dentistry," and another named "limited practical experience and an inability to translate didactic information into practical patient care."

#### Advantage

- Postgraduate training can help new graduates to develop greater confidence and competency.
- Create an environment where the public and the graduates will benefit from this additional time of training.
- Improve clinical ability and scientific knowledge in various dental areas , and to expand dentist contributions to primary health care and reducing the Cost of Dental Care.
- Increase the number of patients receive treatment, increase the number of clinical activities and technical tasks experienced by the dentist <sup>[9]</sup>.
- Support the effective application and/or integration of new science information <sup>[10]</sup>.
- Educational best practices can help students acquire mental capacities associated with expert function, including critical thinking and communication skills.
- No need for lengthen the undergraduate curriculum by an additional year or years, sub-sequent decrease cost.
- The quantitative and qualitative improvement of postgraduate clinical training in national cooperative-type facilities may have an influence on the distribution of new-entry dentists and contribute to establishment of an effective regional dental health care service.
- For vocational training: it was good for career development (54%), they were interested in additional education (46%), and desire to reach a higher salary (46%). Respondents felt that the most beneficial parts of the vocational training were the knowledge gained in clinical experiences (74%), and the social interaction with peers (42%) <sup>[6]</sup>.

- Through supervised education and training, dental graduates will be prepared for independent practice and it's promote high standards of patient care, knowledge-based problem solving ,to develop graduate attitude through dealing different patients behavior, possessing a special skill in patient management, in assessment, challenging diagnostic problems , and treatment planning, and in specific clinical procedures.

### Disadvantages

- It is time-consuming and more expensive for students if they have to add one or more year of training before they can practice independently. In contrast working in private sector provides money and practice.
- The fiscal viability of these programmes may be questioned.
- Increasing the demands for instructors with good training as generalists or as teacher/trainers.
- Efforts of experts needed for planning, implementation of these programs, which is cost time and money.
- Many new graduates are already well prepared to enter the work force without additional training.
- Deficiencies in curricula of both GPR and AEGD programmes, must be kept flexible enough to deal with the needs of both the residents/students and the patient population being served.

### Pitfalls

- Transplanting or adopting the British system of vocational training to New Zealand neither fits their environment, nor meets the objectives.
- The funding of the vocational training, Grants are paid to trainers from a variety of sources. Some regional health authorities are generous in supporting postgraduate dental education; others do not recognize postgraduate education for dentists as having high priority, and give no support.
- Educational opportunities at different sites will vary greatly and likely affect the final outcome.
- The (British and Swedish ) models of mandatory post graduation pre-registration formal education may results in-graduates are already well prepared to enter the work force without additional training needs.

Based on surveys, The analysis reports responses to an open-ended question sent to all U.S. PGD program directors regarding critical issues facing their training programs, they found that, regarding the

- Quality and Quantity of Students, there was declining number of applicants. Reasons behind the decline in the number of postdoctoral applicants, is the predilection for private practice (make more money) and high student debt were the most common. About the quality, GPRs would attract students from the “bottom of the barrel” of dental schools who wish to gain entry into a specialty program.
- Problem in Professionalism and Attitudes, maintaining residents with high ethics/integrity and willingness to learn, because resident think that they now every think.
- Insufficient positions to accommodate the need and demand for this training.

### Infrastructure

- Lack of funding: Ability to retain adequate support staff, especially administrative and chair side assistants in clinic.  
  - More funding for residents
  - More funding for support staff
- Quality of facilities: Aging facilities and expanding technology costs, that additional technology is needed for “distance based education for extramural facilities” and “to provide state of the art facilities and equipment.”

### Academic Program

These factors are consider in establishing the program.

- Care for special population groups (patient with compound or complex problems).

Program curriculum - some programs provide little educational value, spending more time teaching basic didactic education that [residents] should have had in school. For some, the lack of student quality was a direct corollary to perceived problems with the PGD curriculum.

- Faculty issues –concern about qualifications, motivation, or adequate compensation of faculty. Salaries for faculty members may not be competitive.
- Mandatory or encouraged PGD year the question of whether a postgraduate year should be mandatory or merely encouraged for all dental school graduates.

### General Dentistry

- Value of dental program: education programs were not sufficiently valued by dental students, some of whom placed emphasis on “making money vs. education and development. “lack of understanding/support from the practicing dental community regarding the importance and value of postdoctoral training for general dentists”.
- Value by hospital: Lack of funding from sponsoring institutions—GPRs not essential to the mission of most hospitals, other opinion, In an age of budget restrictions and hospital cutbacks, dentistry takes a back seat to funding a new ER or other hospital functions.
- Dentist shortage: The shortage was seen as either a result of an increase in the patient pool due to longer life spans or of a decrease in new dentists, also, “changing medical profile of the population—more meds, more therapies, people living longer—too many patient for the manpower we have to provide care to <sup>[11]</sup>.

### Guide for implication

- Incorporating evidence-based concepts into postgraduate curriculum . . . funding for automation based training . . . and assessing the true impact of specific educational methods in postgraduate programs. Adapting the training to meet the changing trends in dental practice including implantology, adhesive dentistry, digital radiography, computerized record keeping and other applications of computer technology including evidence-based treatment planning. Finally, a concern voiced several times was the required “ADA standards pushing hospital and medicine rather than improving dental competence <sup>[12]</sup>.
- Much greater attention will need to be paid to educational evaluations, incorporating assessment of educational process, content, as well as outcomes, and any changes in community oral health care needs and demands.
- Mandatory formal postgraduate training would remove the need to ‘teach it all’ in the undergraduate phase and ease the transition to practice by affording additional experience in the management of diverse patient populations.
- National support is also essential if it is to make a difference in the way the profession of dentistry is practiced in the community.
- All dental students need to complete a mandatory residency to get more experience with the diversity of clinical dentistry because the bare minimum in school is not enough, and an AEGD program director responded, A fifth year of training is needed to keep up with the explosion in all facets of dentistry. Pool of practicing dentists is aging, and more are retiring and leaving practice than are being replaced by new graduates.” This respondent added, “It is vital that the profession of dentistry be marketed to high school and college students” as a solution to this problem.

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