MASTER OF SCIENCE IN PERIODONTOLOGY

STUDY PLAN

2019

MBRU

جامعة محمد بن راشد للطب و العلوم الصحية

MOHAMMED BIN RASHID UNIVERSITY OF MEDICINE AND HEALTH SCIENCES

Introduction

The Master of Science in Periodontology at HBMCDM is 36-month didactic, clinical and research program that provides excellence in education and train graduate students in clinical practice skills to diagnose, manage and/or prevent diseases and abnormalities affecting the supporting tissues of teeth and dental implants under the supervision of experienced and internationally renowned clinicians and researchers in the field of periodontology and implant dentistry.

The clinical component allows residents to gain experience in conventional non-surgical and surgical treatment modalities in periodontology including regenerative, functional and aesthetic surgical procedures. Residents are also trained in basic and advanced surgical procedures in implant dentistry employing a wide range of dental implant systems.

The research component encourages the residents to participate in basic or clinical research activities within the College and present their findings at national and international professional meetings.

The Master of Science in Periodontology at HBMCDM prepares the graduate students to be an integral member of multidisciplinary oral health teams and embrace a lifelong philosophy of learning and developing their profession.

Study plan

Year 1		
Semester 1		
Code	Course	Credit
CC500	Advanced Clinical Science 1	2
PE241	Basic Biological Sciences Relevant to Periodontology	1
PE242	Specialty Clinical Training – Clinical Skill Facility	8
Pe231	Specialty Clinical Training - Clinic	4
CC503	Clinical Governance, Legislation and Ethics	1
PE243	Diagnosis and Treatment Planning in Periodontology	1
CC502	Research Methodology and Biostatistics	2
PE211	Research Dissertation	1
PE221	Scientific Literature	1
Total		**21**
Semester 2		
CC501	Advanced Clinical Science 2	1
CC505	Health Education and Promotion / Epidemiology	1
PE244	Non-Surgical Periodontal Treatment	1
PE249	Periodontal Surgery	2
PE252	Basic Implant Surgical and Restorative Techniques	1
PE232	Specialty Clinical Training	10
CC506	Clinical imaging	1
PE212	Research Dissertation	2
PE222	Scientific Literature	1
Total		**20**
Year 2		
Semester 1		
PE246	Interdisciplinary Interfaces	1
PE233	Specialty Clinical Training	10
PE253	Advanced Implant Surgical and Restorative Techniques	2

	Specialty Clinical Training – Clinical Skill Facility (Dental Implants)	2
PE213	Research Dissertation	3
PE223	Scientific Literature	2
Total		**20**
Semester 2		
PE250	Mucogingival Surgery and Regenerative Techniques	2
PE234	Specialty Clinical Training	12
PE248	Oral Pathology and Oral Medicine	1
CC504	Molecular Biology	1
PE214	Research Dissertation	3
PE224	Scientific Literature	1
Total		**20**
Year 3		
Semester 1		
PE235	Specialty Clinical Training	14
PE215	Research Dissertation	5
PE225	Scientific Literature	1
Total		**20**
Semester 2		
PE235	Specialty Clinical Training	12
PE215	Research Dissertation	5
PE225	Scientific Literature	1
PE255	Examination Preparation	1
Total		**19**

Periodontology course descriptions

Advanced Clinical Science 1 and 2

This foundation course, which runs for the whole first year, consists of a series of lectures covering anatomy, histology, physiology, general pathology, and pharmacology. It will also include lectures in head and neck anatomy, oral embryology and histology. Students are expected to gain knowledge in anatomy and physiology of oral tissues and basic medical sciences relevant to Periodontology.

Basic Biological Science Relevant to Periodontology

This course consists of series of lectures covering the anatomy, histology and physiology of periodontal tissues, pathogenesis and microbiology of periodontal diseases, epidemiology, local and systemic risk factors associated with periodontal diseases. The lectures are intended to provide students with thorough understanding of the current and classic literature and research related to the relationship of plaque and inflammatory periodontal diseases, the natural history of periodontal disease in a variety of populations and the impact of environmental and genetic influences on host susceptibility.

Clinical Governance, Legislation and Ethics

The course will provide students with broad knowledge of ethical and social issues, medico-legal importance of effective record keeping, and the place of periodontal care in the health spectrum. Students will be able to perform professional clinical examination, collect the appropriate information needed to evaluate oral and relevant medical conditions, utilize appropriate communication skills with patients and colleagues, obtain informed consent and deliver clinical care to the highest ethical and clinical standards.

Diagnosis and Treatment Planning in Periodontology

The course introduces the concepts associated with periodontal practice and addresses periodontal disease assessment, diagnosis and prognosis of periodontal diseases. Students will be expected to demonstrate skills in periodontal disease examination, understand the interaction between varying predisposing/modifying factors and periodontal disease and outline an effective and personalized treatment plan for their patients.

Health Education, Promotion and Epidemiology

This course will begin with introducing the basic concepts in dental public health and epidemiology. Other subjects covered in this course will include infection control, oral disease prevention and oral health promotion programs particularly in UAE. Students are expected to gain knowledge in identifying different study designs, critically appraise epidemiological research and apply the principles of evidence-based practice in developing their patients' treatment plans.

Specialty Clinical Training - Clinical Skill Facility (including dental implant workshops)

The aim of this course is to prepare students for the periodontal management of patients at the HBMCDM clinics through a variety of simulation exercises using dental models and animal cadavers. The course runs for the whole first year. In the first semester, the exercises cover a wide range of clinical procedures from scaling and root planing to surgical periodontal treatment. In the second semester, students are introduced to basic dental implant surgical procedures and attend hands-on workshops on several implant systems.

Specialty Clinical Training - Clinics

This course is the clinical component of the Periodontology program curriculum. Students are expected to attend and treat patients at the HBMCDM clinics and the Community Health Centres of Dubai Health Authority.

In the first year, the clinical sessions are mainly devoted to examination, treatment planning, scaling and root planing. It is expected that students may undertake some periodontal surgical procedures towards the end of first year.

In the second year, the clinical sessions are devoted to treatment of patients with periodontal disease, both non-surgically and surgically as well as starting to place a number of implants. Students are also expected to start treating interdisciplinary cases.

In the third year, the clinical sessions are still devoted to treating patients with periodontal disease, both non-surgically and surgically as well as performing a number of mucogingival procedures. Students are expected to undertake treatment of more complex implant cases and continue treatment of interdisciplinary cases.

Research Methodology and Biostatistics

This course is designed to provide fundamental knowledge in research methodology, clinical study design, data management and report preparation. Topics covered will also include the hierarchy of research evidence, data collection, basic biostatics, the process of peer review and critical appraisal of journal articles. Students are expected to develop skills in presenting research work at professional meetings, preparing and writing articles under supervision.

Scientific Literature

This course runs over the three year of the Periodontology program. The weekly seminars are based on case presentations, assignments and journal clubs. Case presentations provide students with an opportunity to become accustomed to presenting and discussing patient at an informal level before the examination process. It also allows discussion of the patients' treatment plans by the presented and their colleagues. Each student is expected to write assignments, undertake profound discussions of the literature in Periodontology and Implant Dentistry and present the assignments to their colleagues. In journal club seminars, students are expected to read, discuss and comprehensively review current dental literature pertaining to Periodontology and Implant Dentistry.

Research dissertation

All students must undertake and complete a research project as part of the Periodontology program. Students must select a research project that is relevant to Periodontology. Supervision is required and one or more of the academic staff members may supervise the research project.

The research report may take the format of a minor thesis or it may be submitted in the form of one or more manuscript(s) for submission to refereed journals. The thesis is examined by at least two examiners (one internal within HBMCDM and one external examiner). Examiners are selected on the basis of their experience, interest and knowledge within the field of research. Publication of research results in peer-reviewed journals is expected of all students.

It is expected that students adhere to the following time line:

Year 1, Semester 1: Selecting the research topic and general reading.

Year 1, Semester 2: Finalizing the research proposal, grant and ethics applications.

Year 2, Semesters 1 and 2: Conducting the research project.

Year 3, Semester 1: Writing-up the thesis.

Year 3, Semester 2: Submitting the thesis and presenting research at national/international conference.

Non-Surgical Periodontal Treatment

This course is designed to provide students with knowledge in the contemporary practice of periodontology with emphasis on non-surgical periodontal management. Topics covered will include mechanical debridement, use of chemotherapeutics and laser in treatment of periodontal disease, behavioural health models and periodontal maintenance. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

Cell and Molecular Biology

The course provides students with the basic fundamentals of modern cellular and molecular biology in clinical dentistry. Topics covered include DNA replication and transposition, mRNS translation, embryonic development and reprogramming cancer stem cells. In particular, chromosomal disorders, such as Down syndrome are emphasized. Students are expected to understand the molecular biology techniques and their application to periodontology, be able to interpret and evaluate experimental data, stem cells and gene therapy research.

Clinical imaging

This course aims to provide a thorough understanding of clinical imaging and its relevance to Periodontology. Topics covered include relevant biology and anatomy of the oro-facial region, principles of radiographic quality assurance and the practice of applied quality control, interpretation of radiographic images with an accurate radiographic report, the relevance of clinical photographs in treatment planning, the medico-legal importance of photographic records, and the relevance of minimizing the radiation dose for each patient when undertaking a radiological examination. The indications for the use of Cone Beam Computed Tomography (CBCT), the interpretation of CBCT imaging and the medico-legal aspects of CBCT imaging are also covered.

Interdisciplinary interfaces

This course aims to introduce students to the multidisciplinary treatment planning by emphasizing on the importance of the relationship between periodontology and other dental specialties in comprehensive patient care. Topics covered include relevant restorative and occlusal considerations when treating periodontal patients, placing dental implants or managing combined endodontic-periodontal lesions. Other topics related to periodontal-orthodontic interrelationship and the association between periodontal diseases and different systemic disease are also covered.

Periodontal Surgery

This course is designed to provide students with knowledge in the contemporary practice of periodontology with emphasis on surgical periodontal management. Topics covered will include basic principles of periodontal surgery, resective surgical procedures, surgical management of furcation-involved teeth, crown lengthening and current trends in surgical and non-surgical periodontal treatment. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

Mucogingival Surgery and Regenerative Techniques

This course is designed to provide students with knowledge in the contemporary practice of periodontology with emphasis on mucogingival surgery and regenerative techniques. Topics covered will include basic principles of periodontal wound healing and regeneration, management of marginal tissue recession and osseous defects, and current trends in regenerative periodontal therapy. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

Basic Implant Surgical and Restorative Techniques

This course is designed to provide students with knowledge in contemporary implant dentistry. Topics covered will include osseointegration, basic principles of implant treatment planning, implant placement and loading protocols and success and survival of dental implants. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

Advanced Implant Surgical and Restorative Techniques

This course is designed to provide students with knowledge in the contemporary practice of advanced surgical implant dentistry. Topics covered will include digital implant planning, esthetic considerations in implant dentistry, bone augmentation techniques, sinus lift procedures and management of peri-implant diseases. Students are expected to integrate theoretical knowledge into practice and develop critical clinical decision-making skills.

Oral Pathology and Oral Medicine

The course will provide in-depth knowledge of oral pathology and oral medicine. Topics to be covered include common oral pathology entities. Students are expected to reach reasonable differential diagnosis based on clinical, radiographic and laboratory findings and able to plan an appropriate patient care plan.

Examination Preparation

This course is intended to present a final revision for the students to prepare them to sit for the Royal College of Surgeons of Edinburgh Membership in Periodontics examination. The aims of the course are to test the range of knowledge of Periodontology at a level expected of a specialist practitioner and to test the attainment of competence in the planning and execution of periodontal dentistry required for specialist practice.