



## STUDY PLAN OF PROGRAM 2019-2020

The BDS program is conducted in two semesters per year.

**a) First Semester:** Starts after returning from the annual summer vacations in August 2019.

**b) Second Semester:** Starts after returning from the mid-year break in January 2020.

FIRST YEAR (PRE-DENTAL)			
FIRST SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
101 ISLM	Islamic Culture I		2
102 ARAB	Arabic Writing		2
181 ENG	English Language		8
<b>TOTAL CREDIT</b>			<b>12</b>
FIRST YEAR (PRE-DENTAL)			
SECOND SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
105 PYS	Medical Physics for Health Sciences		4
105 CHM	Medical Chemistry for Health Sciences		4
105 BIO	Medical Biology for Health Sciences		4
182 ENG	English for Academic purposes		3
<b>TOTAL CREDIT</b>			<b>15</b>

SECOND YEAR			
THIRD SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
222 OPT	Dental Anatomy and Occlusion	181 ENG	2
201 HLT	Biochemistry I	105 PYS	2
252 MED	Gross Histology and Embryology	105 CHM	2
220 ANAT	Introduction Human Anatomy	105 BIO	3
212 PHYSIO	Human Physiology I		2
261 DEN	Introduction to Dentistry		1
243 PHCL	Introduction to Ethics in the Health Profession		2
102 ISLM	Islamic Culture II	101 ISLM	2
	Elective course		1
<b>TOTAL CREDIT</b>			<b>17</b>
SECOND YEAR			
FOURTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
222 OPT	Dental Anatomy and Occlusion	181 ENG	2
222 PRO	Basic Dental Materials	105 PYS 105 CHM 105 BIO	2
212 DIG	Oral Biology	252 MED	3
255 MED	Human Physiology II	212 PHYSIO	3
251 MED	Biochemistry II	201 HLT	2
254 MED	Head and Neck Anatomy	220 ANAT	3
<b>TOTAL CREDIT</b>			<b>15</b>

THIRD YEAR			
FIFTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
311 MDS	Oral Biology and Histology II	211 MDS	2
313 MDS	Oral Radiology I	162 PRE	2
321 RDS	Preclinical Operative Dentistry I	222 RDS	3
331 PDS	Community Dentistry	261 DEN	1
341 SDS	Preclinical Removable Prosthodontics I	222 RDS	2
351 DMS	General and Systemic Pathology I	254 DMS	2
353 DMS	Microbiology and Immunology	254 DMS	3
104 ISLM	Islamic Culture IV		2
<b>TOTAL CREDIT</b>			<b>17</b>
THIRD YEAR			
SIXTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	
312 MDS	Oral Pathology I	311 MDS	2
314 MDS	Oral Radiology II	313 MDS	3
315 MDS	Anesthesia and Exodontia	252 DMS	2
322 RDS	Preclinical Operative Dentistry II	321 RDS	3
332 PDS	Epidemiology and Biostatistics	331 PDS	1
342 SDS	Preclinical Removable Prosthodontics II	341 SDS	2
352 DMS	General and Systemic Pathology II	351 DMS	2
354 DMS	Pharmacology	256 DMS	2
<b>TOTAL CREDIT</b>			<b>17</b>

FORTH YEAR			
SEVENTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
411 MDS	Oral Pathology I	312 MDS	2
412 MDS	Oral Medicine and Diagnostic Sciences I	314 MDS	3
421 RDS	Operative Dentistry I	322 RDS	2
423 RDS	Preclinical Endodontics I	322 RDS	2
431 PDS	Periodontics I	312 MDS	2
441 SDS	Clinical Removable Prosthodontics I	342 SDS	2
443 SDS	Preclinical Fixed Prosthodontics I	322 RDS	3
451 DMS	General Medicine	352 DMS	2
452 DMS	General Surgery and Ear Nose Throat	352 DMS	1
<b>TOTAL CREDIT</b>			<b>19</b>
FORTH YEAR			
EIGHTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
413 MDS	Oral Medicine and Diagnostic Sciences II	412 MDS	2
414 MDS	Clinical Oral and Maxillofacial Surgery I	315 MDS	2
422 RDS	Operative Dentistry II	421 RDS	2
424 RDS	Preclinical Endodontics II	423 RDS	2
432 PDS	Periodontics II	431 PDS	2
433 PDS	Preclinical Pedodontics	421 RDS	2
442 SDS	Clinical Removable Prosthodontics II	441 SDS	2
444 SDS	Preclinical Fixed Prosthodontics II	443 SDS	3
<b>TOTAL CREDIT</b>			<b>17</b>

FIFTH YEAR			
NINTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
511 MDS	Oral Medicine and Diagnostic Sciences III	413 MDS	2
512 MDS	Clinical Oral and Maxillofacial Surgery II	414 MDS	2
521 RDS	Operative Dentistry III	422 RDS	2
523 RDS	Clinical Endodontics I	424 RDS	2
531 PDS	Periodontics III	432 PDS	2
533 PDS	Pedodontics I	433 PDS	2
541 SDS	Clinical Removable Prosthodontics III	442 SDS	2
543 SDS	Clinical Fixed Prosthodontics I	444 SDS	3
<b>TOTAL CREDIT</b>			<b>17</b>
FIFTH YEAR			
TENTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
513 MDS	Advanced Oral and Maxillofacial Surgery I	512 MDS	2
522 RDS	Operative Dentistry IV	521 RDS	2
524 RDS	Clinical Endodontics li	523 RDS	2
532 PDS	Periodontics IV	531 PDS	2
534 PDS	Pedodontics II	533 PDS	2
535 PDS	Preclinical Orthodontics	431 PDS	3
542 SDS	Clinical Removable Prosthodontics IV	541 SDS	2
544 SDS	Clinical Fixed Prosthodontics I	543 SDS	2
551 DMS	Dental Pharmacology	354 DMS	1
<b>TOTAL CREDIT</b>			<b>18</b>

SIXTH YEAR			
ELEVENTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
611 MDS	Advanced Oral and Maxillofacial Surgery II	513 MDS	2
631 PDS	Evidence Based Dentistry and Research and Methodology	332 PDS	1
633 PDS	Pedodontics III	534 PDS	2
635 PDS	Clinical Orthodontics I	535 PDS	2
641 SDS	Advanced Prosthodontics I	544 SDS	2
643 SDS	Dental Implantology I	513 MDS	1
661 DEN	Comprehensive Care Clinics I	All fifth year courses except 533 PDS, 534 PDS, 535 PDS and 551 DMS	6
663 DEN	Practice Management and Professional Conduct	261 DMS	1
<b>TOTAL CREDIT</b>			<b>17</b>
SIXTH YEAR			
TWELFTH SEMESTER			
CODE	COURSE TITLE	PRE-REQUISITES	CREDIT HOURS
612 MDS	Temporo Mandibular Disorder(TMD) and Oro Facial Pain	611 MDS	1
632 PDS	Community Dental Practice	331 PDS	2
634 PDS	Pedodontics IV	633 PDS	2
636 PDS	Clinical Orthodontics I	635 PDS	2
642 SDS	Advanced Prosthodontics II	641 SDS	2
644 SDS	Dental Implantology II	643 SDS	1
662 DEN	Comprehensive Care Clinics II	661 DEN	6
644 DEN	Special Care Dentistry		1
<b>TOTAL CREDIT</b>			<b>17</b>

## COURSES DESCRIPTIONS OF FIRST SEMESTER ACADEMIC YEAR 2019-2020

### SECOND YEAR COURSES

#### 1. 222 OPT Dental Anatomy and Occlusion

The course concerns about the basics of oral and facial structures and dental terminology, anatomical landmarks, geometric outlines of all teeth as well as the anatomy and morphology of all permanent and deciduous teeth. This course provides normal physiologic tooth forms, in addition to normal arrangement and occlusion of the teeth in centric occlusion. The student will be able to estimate the age according to the chronology of teeth. In addition to lectures, the course will comprise also laboratory work. . Upon completion of lectures and labs, students should be able to carve anterior and posterior teeth in natural size with proper anatomy and contour using dental blue wax.

#### 2. 201 HLT Biochemistry I

The course will prepare the students to understand the structure, properties and functions of biological macromolecules (carbohydrates, proteins, lipids and nucleic acids), nomenclatures of enzymes and its functions and role in chemical reactions, study of functions of minerals, vitamins in the body, introduction to hormones and its functions, introduction to bioenergetics and metabolism.

#### 3. 252 MED General Histology and Embryology

The course is intended for teaching the dental students the crucial elements of histology & embryology as a fundamental requirement for other dental courses.

#### 4. 220 ANAT Introduction to Human Anatomy

The course is intended for teaching the dental students the crucial elements of Gross Anatomy as a fundamental requirement for other dental courses.

#### **5. 212 PHYSIO Human Physiology I**

The course introduces the student to various bases of Human Physiology and theoretical concepts behind it, including major theories of Human Physiology, responses to cell membrane in cellular transport, the functions of autonomic nervous system, the basis of muscular contraction and its molecular basis, the Cardiovascular system and how does it function, the different Central nervous system connections and their functions and the formation of urine in the renal system and discuss acid-base balance.

#### **6. 261 DEN Introduction to Dentistry**

This is one of the first courses taught to the 2nd year students (3rd Semester) enrolled in the college of Dentistry. The course gives the students an overview of dentistry with an introduction to the concepts, principles and procedures of various disciplines in dentistry, the course will deal with Behavioral Sciences & communication skills in Dentistry and provides an insight into the development and integration of behavioral and bio-dental science knowledge and techniques relevant to oral health and disease, and the application of this knowledge and these techniques in prevention, diagnosis, treatment and rehabilitation.

#### **7. 243 PHCL Introduction to Ethics in the Health Profession**

This is one of the first courses taught to the 2nd year students (3rd Semester) enrolled in the college of Dentistry. The course gives the students an overview to understand what is meant by ethics in Dentistry, to understand the term “profession” and how it relates to ethics in dentistry and become familiar with elements and principles of ethical decision making and difference between dental law and dental ethics.

#### **8. 102 ISLM Islamic Culture**

#### **9. Elective course**



## THIRD YEAR COURSES

### 1. 311 MDS- Oral Biology and Histology II

This course enables the student to study oral mucosa, salivary gland, TMJ and bone and alveolar process under the light microscope. Furthermore, understand the mechanism and histology of eruption and shedding processes.

### 2. 313 MDS- Oral Radiology I

This course will entail the students to be familiarized by the basic principles of the X-ray production, the characteristics features of X-rays, and the components of the dental X-ray machines and the functions of each part of these components. This course also comprises the principles, applications, and all parameters of different intra-oral radiographic techniques. Students gain trainings on different intra-oral radiographic techniques and identification of different anatomical landmarks and common radiographic errors. Additionally, the effects of radiation on the human beings on different levels (whole body, systems, organs, tissues, and cells) and the need for radiation protection for patients, operators and the environment will be presented.

### 3. 321 RDS- Preclinical Operative Dentistry I

In this course, the students will be trained to identify and classify carious lesions and manage the same. The contents of the course facilitates the students to acquire knowledge on the use of rotary/ hand operative instruments and apply the fundamental concepts of tooth preparation on artificial teeth for various restorative materials. The focus will be primarily on simple types of tooth preparations and restorations like class I, III and V.

### 4. 331 PDS- Community Dentistry

The course covers the introduction to community dentistry, primary health care, health care system, utilization of oral health services, financing, dental work forces and dental organization, concept of health, disease and prevention, preventive dentistry including preventive measure like health education, health promotion (fluoride application) as well as ethics and program planning and program evaluation.

### **5. 341 SDS- Preclinical Removable Prosthodontics I**

The course covers anatomy of maxillary and mandibular edentulous arches and different laboratory phases of complete denture treatment.

### **6. 351 DMS- General and Systemic Pathology I**

The course introduces the concepts of injury and departures from normal structure and function in the human body, as occurs in disease. It covers various pathological processes and their importance in the basis of human disease. Attention is paid to the processes of cellular adaptation, inflammation, repair, immunology, extra cellular deposit, disrupted hemodynamics and neoplasia.

### **7. 353 DMS- Microbiology and Immunology**

The courses cover all the information about general microbiology, immunology, microbe-host interactions, and infectious diseases. The course also covered the practical session like specimen collection procedure, basic laboratory diagnostic techniques, interpretation of their results and basic immunological techniques.

## FOURTH YEAR COURSES

### 1. 411 MDS- Oral Pathology II

This course is continuation of introductory course which is Oral Pathology I. It covers discipline of pathology that deals with the nature, etiology, clinical and histopathological features of wide variety of diseases like odontogenic tumors, benign and malignant epithelial and mesenchymal tumors. This course provides a systematic approach to correlate clinical and radiographic features with histopathologic diagnosis for salivary gland tumors, mucocutaneous diseases, various infectious diseases, blood and lymphoproliferative disorders which help them in obtaining the final diagnosis. Additionally, it provides training on histopathologic slide examination of various oral and para oral diseases.

### 2. 412 MDS- Oral Medicine and Diagnostic Sciences I

This course is the first of three courses in oral medicine and diagnostic sciences. It covers the basic principles of collecting and documenting patient's data properly; performing extra-oral and intraoral examinations accurately; differentiating the normal appearance and normal function of different oral and para-oral structures, and the variations from such normal appearance; differentiating the different dental pain/complaints; and formulating a comprehensive treatment planning. This course also emphasizes the importance and application of the basic principles of infection control in dentistry.

### 3. 421 RDS- Operative Dentistry I

The course covers the different phases of treatment that the students will be trained to

Control the infection in the dental operatory, perform the routine chair side pre-operative procedures, diagnose the diseases of teeth and plan the treatment for the patient. Apply and maintain principles of sterilization & disinfection and achieve Isolation from moisture and adjacent tissues in clinics. Prepare & Restore initial to moderate sized class I, Class V, and Class III cavities with Amalgam, light cured Composite & Glass Ionomer restorative material on patients.

#### **4. 423 RDS- Preclinical Endodontics I**

The course covers the basics of root canal treatment and prepares the students to understand, recognize, diagnose and successfully treat pulpally involved or potentially involved teeth. Important fundamentals are stressed with emphasis on the correlation between biological and clinical principles. The preclinical component of the course allows the student to practice the steps of root canal treatment on artificial and extracted natural teeth. The course will have two main components: 1. Classroom lecture series which correlate between biological and clinical principles of endodontics. 2. Laboratory exercises to perform endodontic treatment on artificial and natural extracted teeth.

#### **5. 431 PDS- Periodontics I**

The course will cover the different components involved in treating periodontal patients with non-surgical periodontal therapy. The course allows the students to learn and practice infection control measures, identification of clinical features of periodontal structures in health and disease, epidemiology, identification of the local etiological and risk factors, influence of systemic diseases, host response concepts, periodontal instruments and scaling and root planing techniques. Additionally, it will also cover the training on plaque control measures according to the individualized need.

#### **6. 441 SDS- Clinical Removable Prosthodontics I**

This course covers different phases of treatment in conventional complete dentures. The clinical component of the course allows the students to practice patient examination, motivation and treatment with prosthodontic work for completely edentulous patients. It includes infection control, diagnosis, mouth preparation, treatment planning, treatment procedures and follow-up of the complete denture treatment. Additionally the course provides training on manipulation of different impression materials, knowledge about geriatric psychology and evaluates various post insertion problems and complications related to complete dentures.

### **7. 443 SDS- Preclinical Fixed Prosthodontics I**

This course covers the various designs of single tooth preparation and restoration in fixed prosthodontics. It prepares the student for the practice of sound clinical Fixed Prosthodontics through a patient simulation phase of mechanical and technical procedure. The practical component of the course allows the students to practice the different crown preparation using artificial typodont teeth in simulated jaws. The course covers the aspects of introduction and terminology, principles of tooth preparation, preparations of different types of extra-coronal and intra-coronal restorations, classifications and types of fixed dental prostheses, pontics and edentulous ridges, retainers, solder joints and other connectors, and fundamental of occlusion.

### **8. 451 DMS- General Medicine**

The course covers the most important topics related to the main branches of medicine (Chest diseases, Cardiac diseases, Neurological diseases, gastrointestinal & hepatobiliary diseases and endocrinological diseases). The course also is designed to enable the student to become aware of the common symptoms, signs, investigations, complications and basic lines of treatment of the given topics.

### **9. 452 DMS- General Surgery and Ear Nose Throat**

This course is designed to enable the student to become acquainted with the basic principles and fundamentals of both general Surgery and ENT.

## FIFTH YEAR COURSES

### 1. 511 MDS- Oral Medicine and Diagnostic Science III

This course covers the diagnosis and management of disorders involving the oral and maxillofacial region including salivary gland disorders, oral mucosal diseases and burning mouth syndrome. This course also focuses on the aetiology, clinical presentation and diagnosis of oral cancer. In addition, this course includes special investigations employed in oral medicine practice and the various medications prescribed for specific oral conditions.

### 2. 512 MDS- Clinical Oral and Maxillofacial Surgery II

The course covers the principles, diagnosis, treatment planning and management of impacted teeth, infections and injuries of dento-alveolar region. The clinical aspect of the course allows the students in surgical management of difficult extraction and impacted teeth. The course covers the principles of minor oral surgical procedures in inter-disciplinary approach to endodontic, pre-prosthetic and orthodontic specialties.

### 3. 521 RDS- Operative Dentistry III

This course is a continuation of the clinical course which is Operative Dentistry II. The purpose of this course is to teach and train the students to select and use suitable restorative material to restore the form, function and esthetics of the carious and non-carious lesions. Also the students will be trained to perform caries risk assessment of the patient and accordingly develop surgical and non-surgical treatment plans.

### 4. 523 RDS- Clinical Endodontics I

The course covers the subject of endodontics in continuity with the prerequisite knowledge gained in the previous years. The clinical component of the course training is based on raising the clinical sense and experience of the student concerned with building up communication with patient, drawing proper diagnosis and treatment planning, performing diagnostic tests, preparing patient for treatment, managing endodontic emergencies and performing uncomplicated root canal treatment of anterior and premolar teeth. Basic principles of endodontic surgery, internal bleaching of discolored anterior teeth, therapeutics in endodontics and introduction of use of rotaries

in root canal preparation are also covered in this course. The course will have two main components: 1. Classroom lecture series which correlate between biological and clinical principles of endodontics. 2. Clinical sessions to perform endodontic treatment on patients.

### **5. 531 PDS- Periodontics III**

The course covers the different methods of periodontal diagnosis, different phases of treatment plan and non-surgical periodontal treatment. The clinical component of the course allows the students to practice common periodontal clinical procedures for patient examination, motivation and treatment of different periodontal conditions.

### **6. 533 PDS- Pedodontics I**

Pedodontics I course is taught in 5th Year/9th Semester and includes study of examination, diagnosis & treatment planning for various dental problems in children from infancy through adolescence; radiographs/techniques in children; developmental anomalies of teeth and jaws; development of normal occlusion; management of child in dental office; preventive procedures; oral hygiene in children & adolescents including Infant oral health care; and understanding of various gingival & periodontal diseases in children. The clinical sessions encompass extensive clinical training on recording cases, diagnosis & treatment of common problems in pedodontics which also includes taking and interpreting intra-oral radiographs; behavior modification of child patients; performing oral prophylactic procedures and application of topical fluorides.

### **7. 541 SDS- Clinical Removable Prosthodontics III**

This is a continuation of the introductory course which is Clinical Removable Prosthodontics II. The course is aimed to the teaching of cast removable partial dentures along with various forms of temporary partial dentures like interim and transitional partial dentures. This course covers the theoretical background for clinical problems and complications associated with cast removable partial denture fabrication The clinical component of the course allows the students to practice common clinical procedures for patient examination, motivation, and treatment with partial dentures. The course will

allow the students to attain technical skills and improve finger dexterity so that they are confident for doing higher courses in the program of dentistry.

### **8. 543 SDS- Clinical Fixed Prosthodontics I**

A series of lectures and clinical sessions is designed to provide undergraduate students with framework information on clinical fixed prosthodontics. The clinical phase seeks to equip the student with the fundamental skills for sound clinical fixed prosthodontics practice and to give them the broadest possible input on treatment of patients with perspectives from FPD. This course is a review subjects include theoretical and clinical materials.

This course serves as the first step of clinical practice phase in fixed prosthodontics. It provides a framework for the student to negotiate the difficult preclinical to clinical situations in a standardized and controlled clinical procedure. Post-operative care, different types of selected restorations, Implantology and implant dentistry is overviewed to student as an introduction to preferred choice for fixed restorations.

This course includes lectures, laboratory and clinical training covering some of the principles of the fixed partial denture prostheses. The theoretical part covers diagnosis and treatment planning, fluid control, color selection and light. It also includes information about luting materials and cementation procedures. Clinical part is to train the student on all clinical steps for construction of fixed restorations including individual tooth and bridge preparation.



## SIXTH YEAR COURSES

### 1. 611 MDS- Advanced Oral and Maxillofacial Surgery II

This course is intended to cover major oral and maxillofacial surgical procedures in relation to various pathological conditions. The course covers how to perform transalveolar extractions, surgical removal of impacted teeth, uncomplicated pre-prosthetic surgeries, and biopsy of soft tissues and management of infections of dental origin.

### 2. 631 PDS- Evidence Based Dentistry and Research Methodology

Evidence-Based Dentistry and Research Methodology course helps in developing the basic to intermediate skills necessary to interpret scientific literature. This is done through an emphasis on the qualitative issues in the conception, design, conduct, and analysis of different research modalities used in clinical epidemiology. The sources, assessment, and control of error, confounding, and bias for different research designs are also discussed. Students further gain an understanding of systematic reviews and meta-analysis, the criteria for evidence classification (GRADE approach), and the use of scientific evidence in developing clinical practice guidelines and health and regulatory policies.

### 3. 633 PDS- Pedodontics III

Pedodontics III course (Clinical Pedodontics) is taught in 6th Year/11th Semester and includes lectures on the various dental material used in pediatric endodontics, preventive and interceptive procedures in primary and mixed dentition; etiology, sequelae and management of oral habits in children; minor orthodontic problems encountered in primary & mixed dentition including their etiology, sequelae and management; classification, indications, contraindications, advantages and disadvantages of various space maintainers used in children; genetics in pedodontics & Role of Diet/Nutrition in child's oral health and importance of diet counseling.

The clinical sessions encompass extensive clinical training on performing complex extractions in children using appropriate local anesthetic techniques; restoration of vital and non-vital primary & young permanent teeth; fabrication of removable space maintainers and habit breaking appliances in selected children.

#### **4. 635 PDS- Clinical Orthodontics I**

This course is a continuation of the introductory course which is preclinical orthodontics. It comprises the principles of orthodontic examination, model and cephalometric analysis and their clinical applications in orthodontic practice.

#### **5. 641 SDS- Advanced Prosthodontics I**

This course covers the advanced prosthetic dental laboratory procedures related to the diagnosis, treatment planning and management of an interdisciplinary moderate to complex comprehensive clinical situations equipped with the recent advancement in dental restorative materials. Students are trained to learn a variety of advanced laboratory technical procedures such as mounting of diagnostic casts with face bow transfer on semi adjustable articulators, articulator programming, fabrication of custom guide table and diagnostic wax up procedures for the maxillary and mandibular arches. Additionally, it provides the laboratory training for the management of grossly decayed dentition with the pre-fabricated & custom made post & core restorations.

#### **6. 643 SDS- Dental Implantology I**

The course equips the students with the theoretical understanding of rationale of dental implant placement. Concepts of diagnostic imaging, patient evaluation, diagnosis and treatment planning shall be covered. An insight into implant biomechanics, bone physiology and osseointegration will be given. Basic and advanced surgical procedures for implant placement and soft tissue modeling will be explained to the students.

#### **7. 661 DEN- Comprehensive Care Clinics I**

The course is designed to cover all clinical disciplines in dentistry except Orthodontics and Pediatric dentistry. This course features an intensive clinical emphasis on performing extra and intra-oral examination, synthesizing a comprehensive diagnosis and treatment plan in various situations with knowledge of infectious agent and pharmacological agents as well as delivering an overall general comprehensive treatment to the patients with follow ups. Each student will learn how to visualize optimum dentistry from an aesthetic, functional, biological and structural perspective. The students will



treat a variety of patients under the close guidance of a diverse and experienced faculty.

### **8. 663 DEN- Practice Management and Professional Conduct**

This course is initiated in recognition of the active change in the health care market in Saudi Arabia. It would help to launch students into this ever increasing private health care practices in the best possible way. It will help the students demonstrate knowledge about the structure and function of the health care system in the Kingdom of Saudi Arabia. It would also provide students with a complete knowledge about the general principles of practice management in the clinics.

The course will take its base from the present scenario in regards to the current rules and regulations related to dental practice; and would update the students about the latest developments in the field based on research studies. State of the art teaching techniques would be used aided with examples from real experiences and events. Renowned speakers on the subject will be invited as guest for lectures on the topic of professional conduct.

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## COURSES DESCRIPTIONS OF SECOND SEMESTER

### ACADEMIC YEAR 2019-2020

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#### SECOND YEAR COURSES

##### 1. 222 OPT Dental Anatomy and Occlusion

The course teaches the basics of oral and facial structures and dental terminology, anatomical landmarks, geometric outlines of all teeth as well as the anatomy and morphology of all permanent and deciduous teeth. This course provides normal physiologic tooth forms, in addition to normal arrangement and occlusion of the teeth in centric occlusion. The student will be able to estimate the age according to the chronology of teeth. In addition to lectures, the course will comprise also laboratory work. . Upon completion of lectures and labs, students should be able to carve anterior and posterior teeth in natural size with proper anatomy and contour using dental blue wax.

##### 2. 221 PRO Basic Dental Biomaterials

The course covers the basic physical, mechanical and chemical behavior of different aspects of dental materials such as structure of atoms, interatomic bonding, polymorphism, density, thermal properties , optical properties, stress strain curve and its related properties, transverse strength, impact strength, surface mechanical properties, fatigue strength and tarnish and corrosion. It also covers the chemistry, properties and application of polymers, different types of dental alloys used in dentistry such as gold alloys and base metal alloys.

Additionally it covers the bonding mechanism used in dentistry such as theory of adhesion and cohesion, factors affecting strength of adhesive junction, bonding to enamel and dentin and the application of the concept of bonding in dentistry.

### **3. 211 DIG Oral Biology**

The students will be taught the different stages of face, tongue, palate and teeth development, histological structure and functions of tooth structures, oral mucous membrane, salivary glands, alveolar process, maxillary sinus and temporomandibular joint under light and Electron microscope. Moreover, they will be taught the mechanism and histology of eruption and shedding of teeth

### **4. 255 MED Human Physiology II**

This course is intended to provide the student with the basic principles of gastro-intestinal, circulatory, reproductive and endocrine human physiology.

### **5. 251 MED Biochemistry II**

This course is intended to provide the students with the basics of biochemistry which are necessary to understand the medical subjects and dental basic sciences as well.

### **6. 254 MED Human and Neck Anatomy**

This course is intended to provide students with a thorough understanding of head and neck anatomy with emphasis on those structures associated with the oral cavity. The course focuses on the anatomy, design and function of structures in the head and neck as they pertain to oral health.

## THIRD YEAR COURSES

### 1. 312 MDS- Oral Pathology I

This course is introductory course. It covers discipline of pathology that deals with the nature, etiology, clinical and histopathological features of wide variety of diseases like developmental disorders of soft and hard tissues of oral and maxillofacial region, dental caries, pulp and periapical lesions, osteomyelitis. This course provides a systematic approach to correlate clinical and radiographic features with histopathologic diagnosis for odontogenic and non-odontogenic cysts and tumors and bone diseases disorders which help them in obtaining the final diagnosis. Additionally, it provides training on histopathologic slide examination of various oral and para oral diseases.

### 2. 314 MDS- Oral Radiology II

This course is a continuation of the introductory course, 313 MDS Oral Radiology I. It comprises the principles and applications of different diagnostic imaging modalities used in dentistry and a basic introduction to imaging of diseases and disorders of the TMJ, salivary glands and maxillary sinus. This course provides a careful methodical assessment of radiographs and a systematic approach to radiographic interpretation of various pathological lesions that aid in diagnosis, treatment planning, and management of patients. Additionally, it provides training in different extra-oral radiographic techniques, writing clear descriptive reports and designing a differential diagnosis.

### 3. 315 MDS- Anesthesia and Exodontia

The course covers the introduction of oral surgery in the coming years with a series of lectures and clinical training covered in the second semester of the third year as semester 6. It provides knowledge on the needed neurophysiology, anatomy, pharmacology, instrumentation and the various administration techniques and complications related to local anesthesia and further provide knowledge of the various methods of infection control in the dental clinic, and the methods used for sterilization, disinfection and aseptic surgical procedures.

#### **4. 322 RDS- Preclinical Operative Dentistry II**

In this course, the students will be trained to apply the preparation concepts on difficult two surface types of tooth preparations like class II & IV and restore them with silver amalgam and composite resin on artificial teeth. In addition, they would understand the need for pulp protection and importance of contacts and contours.

#### **5. 332 RDS- Epidemiology and Biostatistics**

The course covers the principles of biostatistics including measures of central tendency (mean, mode, median) measures of dispersion (range variance and standard deviation) sampling, normal distribution, types of data, types of analysis, presentation of data, and test of significance. It covers study design and focus on epidemiology relevant to dentistry preparing the student for future research.

#### **6. 342 RDS- Preclinical Removable Prosthodontics II**

The course covers different components of removable partial denture and basic surveying techniques in removable partial dental prosthesis construction.

#### **7. 352 DMS- General and systemic Pathology II**

The course introduces departures from normal structure and function in the human body systems, as occurs in disease. Attention is paid to the most common cardiopulmonary, neurological, endocrine (thyroid disorders and diabetes) as well as leukemia and anemia.

#### **8. 354 DMS- Pharmacology**

This course helps the students to prescribe drugs for dental procedures by taking special care for different medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immune compromised patients. This is achieved by stressing on different topics like Basic introduction, Different routes of administration, Factors modifying drug response, Drug interactions. Students gain a complete understanding of effect of drugs on different systems of the body like Central nervous system, cardio vascular system, blood, GIT and respiratory disorders. Special importance is given on commonly prescribed drugs in dentistry (Non-steroidal anti-inflammatory



drugs), Anesthesia, rational prescribing, prescription writing and drugs to be prescribed in medical emergencies.



## FOURTH YEAR COURSES

### 1. 413 MDS- Oral Medicine and Diagnostic Sciences II

This is the second of three successive courses that covers the practice of diagnosing and non-surgical treatment of oral diseases. This course details the oral findings and dental treatment modifications in the most commonly encountered systemic diseases. It also details the oral manifestations, diagnosis and treatment of many oral mucosal diseases.

### 2. 414 MDS- Clinical and Oral and Maxillofacial Surgery I

The course covers the principles and techniques of Intra (closed) method of extraction. The clinical aspect of the course allows the students in selection of patient for performing the clinical procedures of extraction of teeth.

The course covers the principles of management of medically compromised patients, and understanding of possible medical emergencies in these patients.

### 3. 422 RDS- Operative Dentistry II

The course covers the different phases of treatment that the students will be trained to diagnose the diseases of teeth, causes for dental pain and tooth sensitivity and formulate a treatment plan for the same. Prepare & Restore moderate to deep Class I, Class V, and Class III cavities, with suitable restorative technique. Student is also expected to learn about the recent advances in restorative materials like Amalgam, Composites & Glass Ionomer restorative materials, and other Biomaterials.

### 4. 424 RDS- Preclinical Endodontics II

The course covers the basics of root canal treatment and prepares the students to understand, recognize, diagnose and successfully treat pulpally involved or potentially involved teeth. Important fundamentals are stressed with emphasis on the correlation between biological and clinical principles. The preclinical component of the course allows the student to practice the steps of root canal treatment on artificial and extracted natural teeth. The course will have two main components: 1. Classroom lecture series which correlate between clinical and biological principles of endodontics. 2. Laboratory exercises to perform endodontic treatment on artificial and natural extracted teeth.

### **5. 432 PDS- Periodontics II**

The course will cover different components which involve training on periodontal pockets, radiographic aids and bone loss in periodontal disease, etiopathogenesis of periodontal disease, etiology, clinical features and management of different periodontal diseases, periodontal emergencies and anti-infective therapy. Additionally, it will provide training on diagnosing a periodontal case, formulating a treatment plan and providing necessary non-surgical periodontal therapy along with plaque control measures according to the individual need and maintenance periodontal therapy.

### **6. 433 PDS- Preclinical Pedodontics**

The Preclinical Pedodontics course is the first course in Pedodontics taken in the 4th year. This course provides an outline of the Pedodontics and serves as a basis for preparing the students for the clinical Pedodontics in the forthcoming years. It has a Theory and a Practical component. The theory component has 1 credit hour per week and provides knowledge on the aims and scope of Pedodontics; development & chronology of eruption of primary/permanent dentition; differences between primary/permanent dentition and their clinical significance; dental caries (ECC) and its diagnosis/management in children; pulpal diseases in children with a special note on Pediatric dental pharmacology; various basic restorative & preventive materials/procedures used in children.

The practical component includes sessions on identification of primary/permanent teeth; basic techniques in Pediatric operative dentistry like conventional and modified cavity preparations and restorations on artificial primary teeth (Typodont teeth simulating natural teeth) will be taught; basic endodontic procedures including caries excavation and ART; preventive procedures like application of fissure sealants and topical fluorides.

### **7. 442 SDS- Clinical Removable Prosthodontics II**

This course of clinical removable prosthodontics II 442 SDS is a further continuation of previous course of fourth year 441 SDS and the highlight of the course will be to refine the skills of the students which they have gained during last course. This course covers the theoretical background for clinical problems

and complications associated with complete denture fabrication along with introduction to special type of complete denture prosthesis like single complete denture, immediate denture, over denture. The course also intends to maintain the general infection control, diagnosis, mouth preparation, treatment planning, treatment procedures and follow-up of the treatment for completely edentulous or potentially edentulous patients. The course will allow the students to attain technical skills and improve finger dexterity so that they are confident for doing higher courses in the program of dentistry.

#### **8. 444 SDS- Preclinical Fixed Prosthodontics II**

This course covers the different aspects of common dental equipment, dental materials and techniques used in fixed prosthodontics. The practical component of the course allows the students to practice the different bridges preparation and the laboratory procedures for fabrication of fixed prosthesis. The course covers the aspects of articulators and face bow, management of endodontically treated teeth, impression materials, provisional restorations, working casts and dies, wax pattern, FPD casting alloys, investing and casting techniques, finishing and polishing and biocompatibility of dental materials.

## FIFTH YEAR COURSES

### 1. 513 MDS- Advanced Oral and Maxillofacial surgery I

The course will cover the various pathological conditions in relation to etiology, clinical appearance, differential diagnosis and management. The course will cover the aspect of surgical extractions of various teeth, minor pre-prosthetic procedures and suturing techniques.

### 2. 522 RDS- Operative Dentistry IV

This course is a continuation of the clinical course which is Operative Dentistry III. The purpose of this course is to provide the students with the principles of case selection, cavity preparation, restorative techniques for indirect restorations and direct filling gold, also to train the students in various techniques to restore proximal surfaces with amalgam and composite with precise control over contact and contours. The students will also be trained to recognize the various failures of restorations followed by repair or replacement of the failed restorations.

### 3. 524 RDS- Clinical Endodontics II

The course covers the subject of endodontics in continuity with the prerequisite knowledge gained in the previous years. The clinical component of the course training is based on raising the clinical sense and experience of the student concerned with building up communication with patient, drawing proper diagnosis and treatment planning, performing diagnostic tests, preparing patient for treatment, managing endodontic emergencies and performing uncomplicated root canal treatment of multi-rooted teeth. Basic principles of evaluation of endodontic outcomes, endodontic periodontal lesions, diagnosis of cracked tooth and orofacial pain, diagnosis & management of procedural errors, and retreatment are also covered in this course. The course will have two main components: 1. Classroom lecture series which correlate between biological and clinical principles of endodontics. 2. Clinical sessions to perform endodontic treatment on patients.

### 4. 532 PDS- Periodontics IV

This course on the comprehensive treatment planning and the surgical treatment of periodontal disease, which was designed to prepare the student

to understand periodontal surgical treatment options that include gingivectomy, gingivoplasty, modified Widman flap, apically positioned flaps and osseous surgery. Topics are organized to cover the diagnosis and management of Furcation involvement-Etiology & Management and other various surgical procedures that include periodontal plastic surgery, crown lengthening. Satisfactory completion of PDS 532 is a prerequisite for comprehensive course 661 DEN. It consists of 15 sessions with mandatory reading assignments, one quiz, one midterm examination and one final examination.

### **5. 534 PDS- Pedodontics II**

Pedodontics II course (Clinical Pedodontics) is taught in 5th Year/10th Semester and includes lectures on modifications of principles of cavity preparation for primary dentition; Isolation techniques used in children; diagnosis of pulpal diseases; various pulp capping materials and endodontic procedures in primary and young permanent teeth; Local anesthesia and oral surgical procedures including various cysts & tumours of jaws in children; pharmacological management of children will also be taught.

The clinical sessions encompass extensive clinical training on performing basic restorations like class I, class II, caries excavation, ART and restorations; Use proper isolation techniques; recording cases & diagnosis of various pulpal diseases in primary and young permanent teeth; performing pulp capping procedures and extractions in children using appropriate local anesthetic techniques; apply fissure sealants for selected teeth.

### **6. 535 PDS- Preclinical Orthodontics**

The course covers the various aspects of growth and development of facial and dental structures, malocclusion, orthodontic assessment, analysis and interpretation of orthodontic records leading to the formulation of a problem list and diagnosis, as well as the different types of orthodontic appliances. The practical component of the course allows the students to fabricate a study model with properly trimmed base and to practice the steps of the diagnostic process using orthodontic records.

### **7. 542 SDS- Clinical Removable Prosthodontics IV**

The course is aimed to the teaching of conventional complete and special complete dentures. This course covers the theoretical background for clinical problems and complications associated with complete denture fabrication along with introduction to special type of complete denture prosthesis like single complete denture, immediate denture, overdenture. The clinical component of the course allows the students to practice common clinical procedures for patient examination, motivation, and treatment with complete dentures. The course will allow the students to attain technical skills and improve finger dexterity so that they are confident for doing higher courses in the program of dentistry.

### **8. 544 SDS- Clinical Fixed Prosthodontics II**

A series of lectures and clinical sessions is designed to provide undergraduate students with framework information on clinical fixed prosthodontics. The clinical phase seeks to equip the student with the fundamental skills for sound clinical fixed prosthodontics practice and to give them the broadest possible input on treatment of patients with perspectives from FPD. This course is a review subjects include theoretical and clinical materials, starting with esthetics as a main concept of prosthetic treatment.

This course serves as the second step of clinical practice phase in fixed prosthodontics. It provides a framework for the student to negotiate the difficult preclinical to clinical situations in a standardized and controlled clinical procedure. Mouth preparations, different types of selected restorations and resin bonding, management of abnormal dental conditions affecting FPD designs are discussed together with fundamentals of occlusion and occlusal corrections. Implantology and implant dentistry is overviewed to student as an introduction to preferred choice for fixed restorations.

### **9. 551 DMS- Dental Pharmacology**

This course helps the students to prescribe drugs for dental procedures by taking special care for different medical situations.

## SIXTH YEAR COURSES

### 1. 611 MDS Advanced Oral and Maxillofacial Surgery II

This course is intended to cover major oral and maxillofacial surgical procedures in relation to nerve injuries, Orthognathic surgery and various congenital, benign and malignant pathological conditions. Various bone grafting procedures, chemotherapy and radiotherapy treatment modalities. LASERS and their types and uses. The course covers how to perform surgical removal of impacted teeth, uncomplicated pre-prosthetic surgeries, and biopsy of soft tissues and management of infections of dental origin.

### 2. 631 PDS Evidence Based Dentistry and Research and Methodology

Evidence-based dentistry is based on the method of evidence-based health care, which can be explained as the "conscientious, explicit, and judicious use of the best available evidence in making optimal clinical decisions that meet individual patient needs." The Evidence-Based Dentistry and Research Methodology course is one of the most recently introduced courses of the dental curriculum in the Kingdom. The course helps develop the basic to intermediate skills necessary to interpret scientific literature. This is done through an emphasis on the qualitative issues in the conception, design, conduct, and analysis of different research modalities used in clinical epidemiology. The sources, assessment, and control of error, confounding, and bias for different research designs are discussed. Students further gain an understanding of systematic reviews and meta-analysis, the criteria for evidence classification (GRADE approach), and the use of scientific evidence in developing clinical practice guidelines and health and regulatory policies. It also prepares students to structure and pose a clinical question, search for the best available evidence, critically appraise the information obtained, and apply relevant information to patient care. The course finally prepares the students to analyze options to be taken when the evidence is equivocal and/or controversial. Teaching strategies include interactive discussion sessions, and problem-based learning exercises mixed with traditional teaching.

### **3. 633 PDS Pedodontics III**

Pedodontics III course (Clinical Pedodontics) is taught in 6th Year/11th Semester and includes lectures on the various dental material used in pediatric endodontics, preventive and interceptive procedures in primary and mixed dentition; etiology, sequelae and management of oral habits in children; minor orthodontic problems encountered in primary & mixed dentition including their etiology, sequelae and management; classification, indications, contraindications, advantages and disadvantages of various space maintainers used in children; genetics in pedodontics & Role of Diet/Nutrition in child's oral health and importance of diet counseling. The clinical sessions encompass extensive clinical training on performing complex extractions in children using appropriate local anesthetic techniques; restoration of vital and non-vital primary & young permanent teeth; fabrication of removable space maintainers and habit breaking appliances in selected children.

### **4. 635 PDS Clinical Orthodontics I**

This course is a continuation of the introductory course which is preclinical orthodontics. This course covers the principles of biology and mechanics of tooth movement, orthodontic anchorage and fundamentals of treatment planning for different types of malocclusions. The practical component of the course allows the students to be familiar with construction of the basic parts of removable orthodontic appliances and trains them to recognize and adjust simple removable and fixed orthodontic appliances.

### **5. 641 SDS Advanced Prosthodontics I**

This course covers the advanced prosthetic dental laboratory procedures related to the diagnosis, treatment planning and management of an interdisciplinary moderate to complex comprehensive clinical situations equipped with the recent advancement in dental restorative materials. Students are trained to learn a variety of advanced laboratory technical procedures such as mounting of diagnostic casts with face bow transfer on semi adjustable articulators, articulator programming, fabrication of custom guide table and diagnostic wax up procedures for the maxillary and



mandibular arches. Additionally students get training with fabrication of provisional restorations simulating the various clinical situations.

## **6. 634 SDS Dental Implantology I**

The course equips the students with the theoretical understanding of rationale of dental implant placement and implant classification. Concepts of diagnostic imaging, patient evaluation, diagnosis and treatment planning shall be covered. An insight into applied anatomy, bone physiology and osseointegration will be given. Basic and advanced surgical procedures for implant placement and soft tissue modeling will be explained to the students. Principles of infection control shall be covered.

## **7. Comprehensive Care Clinics I**

The course is designed to cover all clinical disciplines in dentistry in a comprehensive manner. This course features an intensive clinical emphasis on performing extra and intra-oral examination, synthesizing a comprehensive diagnosis and treatment plan in various situations with knowledge of infectious agent and pharmacological agents as well as delivering an overall general comprehensive treatment to the patients with follow ups. Each student will be taught how to visualize optimum dentistry from an aesthetic, functional, biological and structural perspective. The students will treat a variety of patients under the close guidance of a diverse and experienced faculty.

## **8. 663 DEN Practice Management and Professional Conduct**

This course is initiated in recognition of the active change in the health care market in Saudi Arabia. It would help to launch students into this ever increasing private health care practices in the best possible way. It will help the students demonstrate knowledge about the structure and function of the health care system in the Kingdom of Saudi Arabia. It would also provide students with a complete knowledge about the general principles of practice management in the clinics. The course will take its base from the present scenario in regards to the current rules and regulations related to dental

practice; and would update the students about the latest developments in the field based on research studies. State of the art teaching techniques would be used aided with examples from real experiences and events. Renowned speakers on the subject will be invited as guest for lectures on the topic of professional conduct.

### **9. 612 MDS- Temporomandibular Disorder (TMD)and Orofacial Pain**

This course covers the principles, theories, clinical features and management of temporomandibular disorders, orofacial pain and sleep disorders and their implications on dental practice.

### **10.632 PDS- Community Dental Practice**

The Community Dental Practice course deals with the practical application of the concepts taught in the Community Dentistry (331 PDS) course. This is undertaken in light of the oral health problems prevalent among the people in the surrounding areas. A detailed review of the clinical measures of oral health status and socio-dental indicators and the factors involved in the prevention and control of dental diseases is undertaken. Special emphasis is placed on dental survey research and the provision of both clinical and health promotion experiences to students in community-based settings. Students are presented with the opportunity to apply the skills taught to the conduct of oral health surveys, health promotion activities, and screening and preventive dental treatment.

### **11.634 PDS- Pedodontics IV**

Pedodontics IV course is the last course in Clinical Pedodontics and will be taught in 6th Year/12th Semester. It includes lectures on management and prevention of oro-facial trauma and traumatic dental injuries to primary & permanent dentition; clinical findings and dental management of physically and medically disabled children; Pedodontist role in cleft lip & palate management; the importance of identifying and reporting an abused and neglected child; recent advances in pedodontics; role of genetics in pedodontics and basic idea in setting up of a Pedodontic clinic.

The Clinical sessions encompass extensive clinical training on recording history of trauma including clinical findings & diagnostic tests; emergency and restorative management of traumatized vital and non-vital

primary/permanent teeth; dental management/referral of medically compromised/disabled children and; comprehensive oral care in children with emphasis on importance of follow-up visits.

### **12.636 PDS- Clinical Orthodontics II**

This course covers the principles of orthodontic appliances, orthodontic extraction, anchorage and basic orthodontic treatment in both mixed and permanent dentition stages. The practical part of this course focuses on the identification of different components of orthodontic appliances, orthodontic instruments and their uses as well as the general guidelines of writing orthodontic report.

### **13.642 SDS- Advanced Prosthodontics II**

This course covers advanced laboratory dental procedures related to the diagnosis, treatment planning and management of the long span partially edentulous arches with the scientifically designed different types of maxillary and mandibular removable cast partial dentures. Students are trained to learn all the advanced prosthetic laboratory steps involved such as fabrication of special trays, surveying of the patients casts, designing of cast partial dentures, design transfer to the lab authorization form and wax pattern adaptation for the metal framework. Additionally, it provides training for the management of compromised severely resorbed edentulous ridges and flabby ridges using different types of impression techniques.

### **14.644 SDS- Dental Implantology II**

The course equips the students with the theoretical understanding of various aspects in the prosthodontic rehabilitation of dental implants. Implant biomaterials, components and nomenclature, implant impression making, prosthodontic options for restoring single and multiple implants shall be covered. Insight into implant retained overdentures and concepts of implant occlusion will help the student to widen their horizon. The causes and prevention of peri-implantitis will be enumerated.

### **15.662 DEN- Comprehensive Care Clinics II**

The course is designed to cover all clinical disciplines in dentistry except Orthodontics and Pediatric dentistry. This course features an intensive clinical

emphasis on performing extra and intra-oral examination, synthesizing a comprehensive diagnosis and treatment plan in various situations with knowledge of infectious agent and pharmacological agents as well as delivering an overall general comprehensive treatment to the patients with follow ups. Each student will learn how to visualize optimum dentistry from an aesthetic, functional, biological and structural perspective. The students will treat a variety of patients under the close guidance of a diverse and experienced faculty.

### **16.664 DEN- Special Care Dentistry**

Special care dentistry is one of the advanced courses & provides knowledge required to understand the concepts of disability, impairment & oral health related to special care people including assessment/diagnosis, formulation of a feasible treatment plan to deliver preventive & comprehensive oral care in special needs people attending comprehensive care clinics and also individuals/groups at community level.

Special care dentistry course is concerned with the improvement of oral health in individuals and groups in society who are unable to accept routine dental/oral care because of some physical, intellectual, emotional, medical, mental, sensory or social impairment or a combination of these factors. Special knowledge & skills including a multidisciplinary team approach is needed to provide comprehensive oral care both in individuals and among special population groups. The focus should be on the provision of oral care rather than on the specific dental procedures.