Republic of Iraq
Ministry of Higher Education and Scientific Research
University of Basrah
Al-Zahraa College of Medicine

- Al-Zahraa College of Medicine
- Semester 4

Module Summary: Gastrointestinal System

Updated: Sep 2023

1 Educational Aims of the Unit

The unit aims to enable students to make progress towards meeting some of the learning outcomes described in Tomorrow's Doctors (2009) relevant to 'The Doctor as Scholar and Scientist', 'the Doctor as a Practitioner; and 'The Doctor as a Professional'. The specific aim is to enable students to develop an understanding of the human body as a cellular system, classify its tissues as epithelial, connective, muscular or nervous, identify several examples of each, explain their embryological derivation, apply knowledge of histological and anatomical structure to predict function, and state examples of the cellular basis of disease.

The curriculum was obtained from the college of medicine, university of Kufa, which similar to that from college of medicine in Leicester University and Buckingham University.

2 *Learning Outcomes from Tomorrow's Doctors (2009)*

Outcomes 1: The Doctor as a Scholar and Scientist.

1.The graduate will be able to apply to medical practice biomedical scientific principles.

a) Explain normal human structure and functions.

b) Explain the scientific bases for common disease presentations.

c) Justify the selection of appropriate investigations for common clinical cases.

d) Explain the fundamental principles underlying such investigative techniques.

g) Make accurate observations of clinical phenomena and appropriate critical analysis of clinical data.

2.Apply scientific method and approaches to medical research.

a) Critically appraise the results of relevant diagnostic, prognostic and treatment trials and other qualitative and quantitative studies as reported in the medical and scientific literature.

b) Formulate simple relevant research questions in biomedical science, psychosocial science or population science, and design appropriate studies or experiments to address the questions.

c) Apply findings from the literature to answer questions raised by specific clinical problems.

Outcomes 2: The Doctor as a Practitioner

1.The graduate will carry out a consultation with a patient

d) Take and record a patient's medical history, including social and family history, talking to relatives where appropriate.

c) Perform a full physical examination

Outcomes 3: The Doctor as a Professional

1.The graduate will be able to behave according to ethical and legal principles. The graduate will be able to:

-Recognize the rights and the equal value of all people and how opportunities for some people may be restricted by others' perceptions.

2.Reflect, learn, and teach others.

e) Establish the foundations for lifelong learning and continuing professional development, including a professional development portfolio containing reflections, achievements and learning needs.

f) Continually and systematically reflect on practice and, whenever necessary, translate that reflection into action, using improvement techniques and audit appropriately for example, by critically appraising the prescribing of others.

g) Manage time and priorities tasks and work autonomously when necessary and appropriate.

h) Recognize own personal and professional limits and seek help from colleagues and supervisors when necessary.

3 Teaching and Learning Strategies

Principles will be introduced in formal lectures, and learning will be reinforced in practical classes and facilitator led small group work immediately afterwards. Student will work in the same teams throughout Phase I to encourage team working.

Some concepts will be discussed in more detail in tutorials, and Moodle- based tests and coursework will allow for formative assessment. Students will be provided with workbooks describing structured tasks to direct independent learning throughout the unit, and on-going use of an e-portfolio will nurture and encourage reflective practice.

4 Unit Outline/Syllabus

Session 1: Overview of gastrointestinal function

Lecture: Basic structures and processes

Lecture: Endoscopic tour of the GI tract

Group work: Case studies in gastrointestinal disease.

Session 2: Salivation and swallowing/development of the GI tract

Lecture: Salivation and swallowing

Group work: Questions and case studies

Lecture: Development of the GI tract

Session 3: Abdominal Wall and Hernia

Lecture: Surgical anatomy of the abdomen

Lecture: Intro to Anatomy

Practical: Functional relationships of the stomach, duodenum, and pancreas

Lecture: Abdominal wall and hernias

Session 4: Stomach 1

Lecture: Functions of the stomach

Group work Case studies: Stomach/Abdominal wall & Hernias

Lecture: Development of the gut.

Session 5: Stomach 2

Lecture: Presentation and pathophysiology of gastric disease

Lecture: Intro to Anatomy

Practical: Functional relationships, Stomach, Duodenum, Pancreas (dissecting room)

Group work: Case studies in gastric disease/Embryology questions

Session 6: The Liver, Biliary Tree & Pancreas

Lecture: Chyme, Pancreas and Liver

Lecture: Intro to Anatomy

Practical: Liver, biliary tree & pancreas (dissecting room)

Group Work: Chyme, Pancreas and Liver

Session 7: Liver, Gallbladder and Pancreas

Lecture: Dealing with Toxins

Group work: Questions and case studies.

Lecture: Diagnosis of Liver and pancreatic disease

Session 8: The Intestines

Lecture: Absorption and mobility in the intestines

Lecture: Intro to Anatomy

Practical: Small & large Intestines (dissecting room)

Lecture: Presentation of Inflammatory bowel disease

Session 9: Microbiology of the Gastro-intestinal tract

Lecture: Microbiology of the GI tract

Group work: Questions and case studies.

Formative: Questions Nervous Tissue & Early Embryonic Development 3

Session 10: GI Malignancies/Investigation of the GI Tract

Lecture: GI Malignancies

Group work: GI Malignancy questions.

Lecture: Investigating the Gastrointestinal system

Session 11: Examination of the Abdomen

Lecture: Signs and symptoms of Abdominal disorders

Practical: Examination of the abdomen

Session 12: Review

Lecture: Review

5 Secondary Learning Outcomes

In addition to meeting the outcomes described in Tomorrow's Doctors, at the completion of the unit students will be able to:

- Describe the gastro-intestinal tract in terms of its gross and histological structure (including its blood and lymphatic supply and innervations and its radiological and endoscopic appearance).
- Describe the structure and function of the salivary glands, liver, gall bladder and pancreas, the mechanism and control of their secretion and their role in digestion.
- Describe the structures and processes involved in mastication and swallowing food and outline the causes of dysphasia and of common esophageal disorders such as achalasia and gastro-esophageal reflux.
- Describe the functions of the stomach, and the mechanisms of and control of gastric secretion.
- Describe the movements of the stomach and regulation of the pyloric sphincter in the passage of the contents of the stomach to the duodenum.
- Describe the main effects of peptic and gastric ulcer disease on the structure and function of the stomach, duodenum and associated structures.
- Describe the structure and function of the liver, biliary tree and pancreas.
- Describe common liver and gall bladder disorders (e.g. ascites and portal hypertension, jaundice, cirrhosis, gallstones, bile & pancreatic duct blockage and pancreatitis) and their consequences.
- Describe the functional and structural adaptations of the intestines in relation to absorption of water, electrolytes, carbohydrates, proteins, lipids and vitamins and explain the principal methods and mechanisms relating to processes of absorption and in elimination of undigested and unabsorbed materials.
- Explain, in general terms, the basis of disorders such as malabsorption, diarrhoea, steatorrhoea, constipation & inflammatory bowel disease and their consequences.
- Explain the neurological basis of abdominal visceral and somatic pain.
- Describe the embryology of the gastrointestinal tract in the adult and explain common congenital disorders (hiatus hernia, Meckel's diverticulum, diverticulosis and common sites of atresia and fistulae of the gastro-intestinal tube).
- Describe the structure of the abdominal wall, inguinal canal and the structural basis of the common congenital defects (e.g. inguinal, umbilical and other hernias).
- Describe the causes and effects of common infections of the gastrointestinal system.
- Describe the presentation, investigation and management of inflammatory bowel disease.
- Describe the natural history of the common benign and malignant tumours of the gastro-intestinal tract and its associated structures.

6 Key Texts and/or Other Learning Materials

- Porth, CM. *Essentials of Pathophysiology*. 3rd Edition, Lippincott Williams & Wilkins [2020]
- Chew,R & Long, MS. *Gastrointestinal system – crash course*. 3rd Edition, Mosby [2020] ISBN9780723434207

For topographical & clinical anatomy, consult the relevant section in:

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