

Faculty of Medicine



FARM2201 Pharmaceutical approach in nutrition

[30h+15h exercises] 3.5 credits

This course is taught in the 1st semester

Teacher(s): Nathalie Delzenne
Language: French
Level: Second cycle

Aims

To help pharmacists and persons involved in health care to play a key role as an advisor in nutrition for patients. To be aware, through the critical analysis of scientific publications and available information on internet, of the recent progress in nutrition (nutritional toxicology, nutrients/drug interactions, nutrition and pathologies, functional and novel foods, special diets, dietary supplements#).

Main themes

The lectures will be based on biochemical mechanisms allowing interactions between nutrients or food components, and key metabolic pathways.

Subsections :

- A. Evaluation of nutritional status and energy/nutrients requirements.
- B. Nutritional biochemistry and nutrition in the prevention and treatment of disease (macro- and micro-nutrients).
- C. Drug- nutrients interactions (pharmacokinetics/pharmacodynamics).
- D. Food toxicology
- E. Dietary supplements ; fortification ; special diets
- F. Recent knowledge in nutrition (nutrients and gene expression; functional food ; novel food#).

Content and teaching methods

- A. Methods of evaluation of nutritional status (anthropometry, impedance#) and energy intake and expenditure (food questionnaire ; indirect calorimetry ; biochemical approach#).
 - B. Follow-up of nutrients metabolism : carbohydrates (digestible/non digestible) ; lipids ; proteins ; ethanol ; minerals and oligoelements ; phytochemicals; Implication in the control of obesity and metabolic syndrome (including diabetes and CHD), cancer, infection/inflammation...
 - C Mechanisms and consequences of drug-nutrients interactions
 - D. Food toxicology : classification of risks and causes (contaminants; natural toxics; influence of food conditioning and preservation#) ; legislation in Europe
 - E. Special diets, dietary supplements; functional food (including pre-probiotics)#
 - F. Recent knowledge in nutrition : will be based on the comparison of data recently published in scientific papers versus information largely diffused (press and internet).
- For practical exercises, the students may choose either laboratory approach (food analysis) or bibliographic analysis of a novel concept in nutrition.

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Pré-requis

Biochemistry ; Toxicology; Physiology ; Pathology ; Pharmacology (including pharmacokinetics) ; Organic and analytical chemistry ; Microbiology.

Evaluation

Evaluation of experimental knowledge during the period of practical exercise.

Written exam based on analysis of case reports.

Support

Notes including key figures, power point presentation, and key papers summarizing each chapter.

Ouvrages de référence ; sites internet et adresses d'organismes intéressants

Food, nutrition and the prevention of cancer : a global perspective World Cancer Research Fund & American Institute for Cancer Research, 1997

Monographies de la chaire Danone (adresse : 100 Rue du Duc, B-1150, Bruxelles ; Téléphone : 02 770 63 54 ; Email : institut_danone@pophost.eunet.be ; site : www.danone-institute.com)

Documents édités par Ilsi (international life sciences institute Europe) ; ouvrage à consulter en PMNT : " Present Knowledge in Nutrition " eighth Edition (2001). Téléphone 02 771 00 14 ; email : info@ilsieurope.be ; site : http://europe.ilsieurope.be

" Nutrition in the prevention an treatment of disease " Eds Coulston, Rock et Monse. Academic Press, 2001

" Handbood of food-drug interactions " Eds B.J. McCabe, E.H. Frankel, J.J. Wolfe. CRC press (2003)

" Aliments fonctionnels " Eds M. Roberfroid ; Edition Tec & Doc, Lavoisier (2002)

Modern Aspects of Nutrition : Present knowledge and future pespectives Eds Elmadfa Karger Publishers 2003

Table de composition des aliments (Belgique) ; NUBEL site : www.nubel.com

Autres sites intéressants et adresses :

EUFIC (Conseil Européen de l'information sur l'alimentation) ; www.eufic.org et www.coolfoodplanet.org

Health and Food (bulletin nutritionnel mensuel) Eds Sciences Today tél fax 02 653 21 58

Programmes in which this activity is taught

NUT2	Licence en sciences biomédicales (nutrition humaine)
SBIM3DS/TA	Diplôme d'études spécialisées en sciences biomédicales (Toxicologie analytique)
SBIM3DS/TC	Diplôme d'études spécialisées en sciences biomédicales (Toxicologie clinique)
SBIM3DS/TE	Diplôme d'études spécialisées en sciences biomédicales (toxicologie expérimentale)

Other credits in programs

FARM22	Deuxième année du grade de pharmacien	(3.5 credits)	Mandatory
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