Discipline **MCP5853**

Research Methods in Dyslipidemia and Atherosclerosis Prevention

Concentration area: 5131

Creation: 13/12/2016

Activation: 13/12/2016

Credits: 2

Workload:

Theory (weekly)	Practice (weekly)	Study (weekly)	**Duration**	**Total**
5	10	15	1 weeks	30 hours

Professors:

Raul Cavalcante Maranhao

Raul Dias dos Santos Filho

Objectives:

This course has as main objective to familiarize students with research methods in the extensive dyslipidemias / prevention of atherosclerosis area . At the end of the course students are expected to develop a critical sense to adequately analyze the value and limitations of the various types of studies that are used in the area (metabolism and pathophysiology studies, association cross-sectional studies, risk assessment longitudinal studies, Mendelian randomization studies, and intervention on lipids for the prevention of cardiovascular disease). Finally, the student should be able to analyze adequately the literature in the area and to develop a basic or clinical study that assesses dyslipidemias / atherosclerosis.

Rationale:

Cardiovascular diseases are the main cause of morbidity and mortality in the world including Brazil. In this way, its prevention plays an important role in Public Health. Dyslipidemias and their association with other cardiovascular risk factors play an important role in the genesis of atherosclerosis. The training of researchers in this area is extremely important for the understanding of pathophysiology, evaluation of cardiovascular risk and development of appropriate preventive interventions. The understanding of the methods used to investigate lipid metabolism, its association with other risk factors for atherosclerosis, predictive risk models of clinical outcomes and intervention are fundamental for the development of researchers in the area. The course is focused on health professionals who work with cardiovascular, endocrinology, nutritional and pharmaceutical research.

Content:

1. Lipid Metabolism: Metabolism and kinetic studies: role and limitations 2.Clinical Risk Stratification a. Cross sectional vs. Longitudinal studies (INTERHEART vs. FRAMINGHAM) b. How to incorporate new biomarkers in clinical practice: relative risk, discrimination (C statistics), calibration and reclassification. 3.Critical analysis on Meta-analysis use in clinical lipidology 4.Mendelian randomization, dyslipidemias, and atherosclerosis biomarkers

Type of Assessment:

1-Seminars and discussions of key studies during the classes.

Notes/Remarks:

Minimal number of students: 5 Maximal number of students : 10

Bibliography:

McQueen MJ, Hawken S, Wang X, Ounpuu S, Sniderman A, Probstfield J, Steyn K, Sanderson JE, Hasani M, Volkova E, Kazmi K, Yusuf S; INTERHEART study investigators. Lipids, lipoproteins, and apolipoproteins as risk markers of myocardial infarction in 52 countries (the INTERHEART study): a case-control study. Lancet. 2008 ;372:224-33.
Ingelsson E, Schaefer EJ, Contois JH, McNamara JR, Sullivan L, Keyes MJ, Pencina MJ, Schoonmaker C, Wilson PW, D'Agostino RB, Vasan RS. Clinical utility of different lipid measures for prediction of coronary heart disease in men and women. JAMA. 2007 ;298:776-85.
Wilson PW. Challenges to improve coronary heart disease risk assessment. JAMA. 2009;302:2369-70.
Loyd-Jones DM, Liu K, Tian L, Greenland P. Narrative review: Assessment of C-reactive protein in risk prediction for cardiovascular disease. Ann Intern Med 2006 145:35-42.
Martinez LR, Miname MH, Bortolotto LA, Chacra AP, Rochitte CE, Sposito AC, Santos RD. No correlation and low agreement of imaging and inflammatory atherosclerosis' markers in familial hypercholesterolemia. Atherosclerosis. 2008;200:83-8.
Nissen SE, Wolski K. Effect of rosiglitazone on the risk of myocardial infarction and death from cardiovascular causes. N Engl J Med 2007;356:2457-71.
Diamond GA, Bax L, Kaul S. Uncertain effects of rosiglitazone on the risk for myocardial infarction and cardiovascular death. Ann Intern Med 2007;147:578-81.
Zacho J, Tybjaerg-Hansen A, Jensen JS, Grande P, Sillesen H, Nordestgaard BG. Genetically elevated C-reactive protein and ischemic vascular disease. N Engl J Med. 2008;359:1897-1908.
Voight BF, Peloso GM, Orho-Melander M et al. Plasma HDL cholesterol and risk of myocardial infarction: a mendelian randomisation study. Lancet. 2012 ;380:572-80

Languages taught:

Portuguese