PGE course / Kirsi Laitinen 12.7.2024
University of Turku, Medical Faculty, Nutrition and Food Research Center

Early life exposures in relation to health: Clinical and molecular insights

Aims: The aim of the course is to familiarize with the multitude of the ways in which early life exposures may impact on lifelong health. Early life phases extend from utero to infancy and childhood. Particularly the students will learn about the translational impacts of dietary intake and eating behaviour in early life on growth and development, later health and onset of lifestyle related diseases including obesity and diabetes. The underlying mechanisms for the clinical outcomes are explored at molecular level, these including studies on gut microbiota, metabolism and immune function.

Credits: 2 (1 credit from lectures and learning diary; 1 credit from the course work). UTU provides a certificate of completed study course.

Target groups: PhD researchers particularly in the fields of medicine, nutrition, dentistry, specializing medial doctor fields include paediatrics, obstetrics and gynaecology, internal medicine, endocrinology. The course is available for postgraduate students from UTU, and also from other Finnish universities.

Study material: named scientific articles (one from each lecture).

Study platform: Lectures in Medisiina B127 (also streamed), Moodle (learning diary, course work).

Implementation of the course:

- Lectures and learning diary in which references to the named articles (one for each lecture available in Moodle) is made. (1 credit)
- Course work. Students will familiarize with scientific literature and write up a report to develop their scientific thinking about the subject of the course. The students will be given spesific topics from which they will choose one. The students will conduct a focused literature search using library research databases to further develop practical and systemic research skills. They will use the literature to write up a concise report which will be shared with other students. Students will read each other's reports and give feedback to minumum of two other report to develop scientific written communication skills. A tutored session (online) will be arranged to discuss the topics (pending the teacher resources). (1 credit)
    - Responsible teacher dr Veera Houttu.

Course marking: Pass (Presence in lectures and learning diary, 1 credit; Course work, 1 credit) / Fail

Time: Autumn 2024. The lectures will be held during three afternoons (29th October, 13th November and 26th November from 12 to 16 hours). Additional time is given to carry out course work in Moodle.

Responsible teacher: Kirsi Laitinen (kirsi.laitinen@utu.fi)

Registration: https://link.webropolsurveys.com/S/A3EE518F08EB06C6

- Last day of registration: 8th October 2024. Registered participants will receive further information about the course by email.

Feeback: Course feedback will be collected electronically

Lectures:

1st afternoon 29.10.2024 (Medisiina B127)

Introduction (prof Kirsi Laitinen, University of Turku) (12:00-12:15)

1. Developmental origins of health and disease theory and relation to onset of metabolic diseases (prof Eero Kajantie, University of Oulu) (12:15-13:00)
2. Early life dietary interventions: what do we know about postbiotics? (prof Seppo Salminen, University of Turku) (13:00-13:45)

Break (13:45-14:00)

3. Gut-brain axis: impacts on child health and well-being (dr Anna Aatsinki, University of Turku) (14:00-14:45)
4. Early changes in immune response of children who develop type I diabetes (prof Riitta Lahesmaa, University of Turku) (14:45-15:30)

Discussion, practical issues (15:30-16:00)

2nd afternoon: 13.11.2024 (Medisiina B127)

5. Early lifestyle: overgeneration impacts on health (prof Harri Niinikoski, University of Turku) (12:15-13:00)
6. Early life nutrition and gut microbiota (adj prof Kati Mokkala, University of Turku) (13:00-13:45)

Break (13:45-14:00)

7. Using metabolomics to decode the biochemical exchange between the microbiota and host and its impact on health and disease (prof Jonathan Swann, University of Southampton, Southampton, UK) (14:00-15:00)

Discussion (15:00-15:30)

3rd afternoon: 26.11.2024 (Medisiina B127)

8. Dietary recommendations for pregnancy, lactation and childhood & opportunities for health promotion (dr Ella Koivuniemi, University of Turku) (12:15-13:00)
9. Exploring breast milk dynamics (dr Lauri Polari, Åbo Akademi & Jenni Viitaharju, University of Turku) 13:00-13:45)

Break (13:45-14:00)

10. Mother-infant interaction in relation to mental health (adj prof Eeva-Leena Kataja, University of Turku) (14:00-14:45)
11. Child eating habits and eating competense in defining health (adj prof Hanna Lagström, University of Turku) (14:45-15:30)

Discussion, practical issues (15:30-16:00)