Objectives

The overall objective for this thesis was to identify possible predictors of body composition at 3 years among 330 healthy Danish children from the SKOT cohort with a special focus on factors related to later obesity risk. This overall aim lead to the specific objectives mentioned below which are also the main aims for the three included papers:

I) The focus on body composition in terms of fat-free mass and fat mass brought along a need for better estimation of body composition in this age group. Thus, the first aim was to generate predictive equations for fat-free mass using bioelectrical impedance analysis and anthropometry – with DXA as reference method.

II) Secondly, being able to distinguish fat mass and fat-free mass in this group of 3-year-old children, I wanted to investigate if there were specific periods of growth in early childhood that were more important than others in terms of shaping later body composition. Moreover, it was of interest to see if the impact of growth in the sensitive periods or body composition at 3 years was modified by nutrition.

III) Finally, a focus on early growth and body composition naturally leads the attention on IGF-I – an important growth factor in early childhood believed to be programmed in early life by infant feeding but also influenced by current diet. Thus, the third aim was to examine how IGF-I levels at 9 and 36 months were related to body composition at 3 years of age and how IGF-I levels at 36 months was related to history of breastfeeding and current diet.