Osteoarthritis (OA) is the most common form of arthritis, and a major cause of pain and disability in middle-aged and elderly persons. As life expectancy increases, so does the prevalence of OA and the related burden for society. Current treatments of OA are mainly symptom driven, since no cure is available. Treatment may be more effective in a pre-clinical stage of the disease. Unfortunately, we are not yet able to predict who will develop clinical disease or identify those at high risk of developing OA. The discrepancy between experiencing pain and the absence of radiological findings, makes this situation even more complicated. However, female gender and being overweight are well-established risk factors for OA development.

In this thesis we aimed to gain insight into: 1) the impact of female gender on OA and its symptoms, 2) the relationship between female hormonal aspects and overweight in OA, and to contribute to the knowledge needed to identify people at high risk of knee OA development in an earlier stage of the disease.