Excessive weight gain during pregnancy is common in developed countries and is associated with an increased risk of maternal and offspring morbidity. Evidence regarding efficacy and safety of antenatal lifestyle intervention in order to reduce gestational weight gain is however limited. The rationale for this thesis was this need to expand knowledge in this field of research. Current scientific evidence was systematically reviewed using the GRADE method and a composite antenatal intervention was designed and performed as a randomized controlled trial (the VIGA trial) set in maternal health care in Örebro Region. Effects of the intervention on gestational weight gain, postpartum weight retention and offspring obesity is presented and discussed in this thesis.