Barriers and challenges in hyperemesis gravidarum research
Grooten, I.J.

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Summary of problems, aims and outline of this thesis
SUMMARY OF PROBLEMS

We identified the following problems in HG research and patient care:

1. The aetiology of HG is unclear and tools to diagnose HG or predict disease severity are lacking. This hampers the identification of patients in need for treatment and study targeted treatment options.

2. The potential of pharmacologic and non-pharmacologic treatment options have not been studied fully and available evidence is generally of low quality. This negatively affects the quality of patient care.

3. Evidence on long-term adverse outcomes for offspring is limited. Therefore, potential harm may not be identified and addressed in current clinical practice.

4. Consensus on HG definition and relevant outcomes is missing. This leads to an inability to synthesise trial results. As a consequence, implementation of trial results into clinical practice is difficult and scarce resources may be wasted.
AIMS AND OUTLINE OF THIS THESIS

To address the above identified problems, we aim to study the following:

**Part I** studies the potential of biomarkers for HG diagnosis and prediction of disease severity. In *chapter 2* we systematically review the aetiologic and diagnostic value of biomarkers for HG. In *chapter 3* we study the association of *Helicobacter pylori* infection with vomiting severity in pregnancy and perinatal outcome.

**Part II** investigates treatment options for HG. In *chapter 4* we systematically review the effect of corticosteroids on disease severity, hospital stay, readmission rates and perinatal outcome. In *chapters 5 and 6* we describe the study protocol and results of a randomised controlled trial (MOTHER) respectively, in which we assess the effectiveness of a nutritional intervention for maternal and offspring outcomes by means of early enteral tube feeding.

**Part III** explores whether symptoms related to HG or hospital admission for HG is associated with long-term adverse cardiometabolic health in offspring. In *chapter 7* we study the association of early pregnancy weight loss with markers of cardiometabolic health, including body mass index, blood pressure, glucose and lipid levels, in 5-6 year old children. In *chapter 8* we study the association of hospital admission for HG with similar markers in 16-year old adolescents.

**Part IV** considers the lack of consensus on HG definition and trial outcomes and proposes suggestions to improve HG research and patient care. In *chapter 9* we describe the variation in HG definition and outcome reporting in randomised controlled trials. In *chapter 10* we summarise the findings of this thesis and discuss implications for future research and patient care.