SUMMARY

At the moment, there are approximately 1 million people with type 2 diabetes in the Netherlands. Type 2 diabetes is a chronic disease characterized by high blood sugar levels. In the Netherlands, most people with type 2 diabetes are treated in primary care. As a consequence of type 2 diabetes, people can experience complications, such as eye, feet or kidney problems. A lesser known complication of diabetes is sexual dysfunction. However, there is little attention for this topic in research and in care. Care providers and patients have difficulty with discussing sexuality. The use of a sexual counseling model could aid the discussion of sexual problems. Therefore, part A of this thesis focused on this overlooked issue in care for people with type 2 diabetes.

PART A: SEXUAL DYSFUNCTION & TYPE 2 DIABETES

First of all, we wanted to know how often sexual dysfunction occurs in people with type 2 diabetes and which factors are associated with this prevalence. We therefore conducted a survey among 158 people with type 2 diabetes in Chapter 2. We found that 69% of men and 70% of women had a sexual dysfunction. Based on this study, we reported that older age, one or multiple diabetes complications and a clinical depression were associated with sexual dysfunction. Of these factors, depression was most strongly associated with sexual dysfunction in people with type 2 diabetes.

Second, we were interested in the care needs of people with type 2 diabetes with sexual dysfunction. In Chapter 3, we therefore conducted a survey among 155 people with type 2 diabetes, of whom 25 were also interviewed in person. Based on this study, we reported that people with type 2 diabetes experienced certain barriers to discuss sexual issues, for example embarrassment. Despite these barriers, most people reported to have a need for care because they valued sexuality as an important part of their relationship. People also reported that they preferred to discuss sexual issues with a care provider they trust. An important recommendation from the participants was to make care for sexual dysfunction part of daily diabetes care.

The PLISSIT model is a sexual counseling model that could aid the discussion on sexuality in daily diabetes care. In Chapter 4, we therefore described the design of a randomized controlled trial to examine the effectiveness of the PLISSIT model. We aimed to include people with type 2 diabetes who were sexually dissatisfied and who wanted to discuss their sexual issues with their general practitioner (GP). Half of the participating GPs were trained to discuss sexuality with the use of the
PLISSIT model, the other half of the GPs provided care as usual. At the start of the study and after 3 and 12 months the (sexual) well-being of the participants was surveyed.

To be able to include eligible participants for the study that was described in Chapter 4, we studied how often people with type 2 diabetes were dissatisfied about their sexual function in daily primary care. In Chapter 5, a total of 786 people with type 2 diabetes were asked by their practice nurse to complete a short screening questionnaire. This screener showed that one in three people with type 2 diabetes was dissatisfied about his or her sexual function. Men more often indicated to be dissatisfied than women. More than half of the people who indicated to be sexually dissatisfied, wanted to discuss this with their GP. Men more often had a need to do so than women.

In Chapter 6, we described whether the use of the PLISSIT model was effective in improving (sexual) well-being of people with type 2 diabetes with sexual problems. We therefore conducted the randomized clinical trial that was described in Chapter 4 in 44 general practices in the Netherlands. In total, 150 people with type 2 diabetes with sexual problems participated in the study. We found that short-term sexual functioning improved in women in the PLISSIT-group compared to women in the control group. We did not see an improvement in sexual functioning among men. In addition, we found that PLISSIT-trained GPs had improved competence with discussing sexual issues. We concluded that the PLISSIT model for discussing sexual issues seemed to be of added value to usual care. It is important for future research to examine other ways to improve sexual functioning in men with type 2 diabetes. Possibly via more intensive or specialist care, outside primary care.

Our findings from part A of this thesis suggest that sexual dysfunction is prevalent in people with type 2 diabetes and that many people have a need for care. We have shown that the use of the PLISSIT model could improve current clinical practice, because short-term sexual functioning improved in women and GPs reported improved competence to discuss sexual issues. However, sexual functioning did not improve in men with type 2 diabetes with sexual problems. This means that there is still a long way to go; with the education of care providers and the information provision to patients as important points of improvement.

PART B: SOCIO-ECONOMIC STATUS AND TYPE 2 DIABETES

Part B of this thesis focused on a second, overlooked issue in care for people with type 2 diabetes: socio-economic status (SES). Previous studies have shown that people of low SES, that is a low level
of education or income, more often experience health problems than people of high SES. In people with diabetes it has previously been shown that an important blood parameter, called HbA1c, differs between people of high and low SES. HbA1c is an important blood parameter that reflects the average blood sugar level over the past two to three months. To put this topic on the agenda for diabetes care, part B of this thesis focuses on the association between SES and HbA1c levels in people with type 2 diabetes.

First of all, we examined the literature to study the relationship between SES and HbA1c in people with type 2 diabetes. In Chapter 7, we conducted an extensive literature search into all studies that examined the relationship between SES and HbA1c in people with type 2 diabetes. We found 45 studies who had examined this. After all data was summarized and pooled, we found that people with type 2 diabetes with a low SES had worse HbA1c levels compared to people with type 2 diabetes with a high SES. We found strong evidence for different SES factors, such as level of income and education.

Based on Chapter 7 we knew that the SES of a patient, for example their level of occupation, is associated with their HbA1c level. We therefore examined whether the level of occupation of the partner of the patient could influence the HbA1c levels of the patients. In Chapter 8, we examined 3257 people with type 2 diabetes with a partner in the Dutch Diabetes Pearl database. We found that men with a partner of an intermediate level of occupation had better HbA1c levels than men with a partner with a higher level of occupation. Women who had an unemployed partner had worse HbA1c levels than women who had a partner with a higher level of occupation. Based on this study, it seemed that the HbA1c levels of women with type 2 diabetes benefitted from having a partner with a higher level of occupation, while men seem to benefit from having a partner with a somewhat lower status.

The findings from part B of this thesis strongly suggest that there is a difference in HbA1c levels between people with type 2 diabetes of high and low SES. To take into account these SES differences in daily diabetes care, future interventions that aim to improve HbA1c levels in people with type 2 diabetes should be adapted to the SES level of the participants.