SUMMARY

This thesis rests at the intersection between cancer and depression. Both disorders are highly prevalent and responsible for a substantial proportion of the global disease burden.

Three different aspects of cancer and depression were evaluated. Firstly, we assessed long-term risk for depression after diagnosis of breast cancer as well as identified socio-demographic and clinical characteristics associated with depression. Secondly, in women diagnosed with breast cancer we evaluated whether pre-existing depression was associated with receiving non-guideline breast cancer treatment and decreased survival. Thirdly, we determined if genetic variants hypothesised to interact with stressful life events on risk for depression were associated with risk for depression after diagnosis of cancer.

Studies of women with breast cancer were nationwide register-based cohort studies. For investigations of genetic variants and risk for depression after cancer the study populations and DNA samples were obtained from the Diet, Cancer and Health cohort while additional information was retrieved from nationwide registers. All studies relied primarily on survival analyses and an effort was made to present both relative and absolute risk estimates.

Women with breast cancer were found at increased risk for depression at least five years after cancer diagnosis. Further, socio-demographic characteristics and breast cancer severity but not type of breast cancer treatment were associated with increased risk for depression. Women with pre-existing depression were at increased risk for receiving non-guideline breast cancer treatment and had decreased overall and breast cancer-specific survival. The strongest association between pre-existing depression and poor survival was found among women not receiving the guideline adjuvant systemic therapy. We observed no associations between investigated genetic variants and depression after cancer.

Health care professionals should be aware of an increased risk for depression persisting years after diagnosis of breast cancer. Women with depression have decreased survival after breast cancer; however, survival improvements are likely obtainable by including more of these women in guideline breast cancer treatment programs. Finally, the investigated genetic variants were not associated with depression after cancer diagnosis, providing ample evidence against their omnipresent involvement in hypothesised gene-environment interactions.