

NCU – Summative report for 2014

Report submission date: February 20, 2015

Principal investigator: Tone Bjørge

Project title: Pregnancy characteristics and maternal cancer: A joint Nordic study

NCU grant received (€):30,000

Project commencement and completion dates: 01.01.2014 - 31.12.2016

1. Briefly describe the project in a language understandable to non-scientists (max. 100 words)

In this extensive cancer epidemiological project, we aim to explore relations between pregnancy conditions and birth characteristics and maternal cancer in a joint study that will pool linkages between birth and cancer registries in four Nordic countries. This data will include detailed information on the reproductive history of mothers and their subsequent cancer incidence. The data will be analysed within a nested case-control design, using appropriate multiple regression models that allow for adjustment for confounders. We believe our study will make a substantial contribution to the understanding of pregnancy as a cancer preventive or promoting phase of a woman's life.

2. Summarize the major findings of the project (max. 400 words)

The following tasks have been performed since the project was granted funding from the Nordic Cancer Union for the year 2014:

1) Applications (Ethics committees)

The study protocol has been approved by ethical committees in the countries which require such an approval (Denmark, Norway and Sweden). Also the different registries/data owners have approved the use of data for this project.

2) Data linkages

We have now received the Danish, Norwegian and Swedish data sets. Due to some errors in the data linkage procedures, we are, however, still waiting for the Finnish

data, and the Swedish data have to be delivered once more. The process of data cleaning is on-going, and syntaxes have been developed. We have also started some preliminary analyses in the available data.

3) Specification of diagnoses/variables

A specification of rare pregnancy complications/conditions has been developed for use in our first sub-project (Pregnancy characteristics and maternal breast cancer risk).

4) Annual meeting

An annual meeting with the participating investigators has been held since the network was established in 2009, and this will continue. Last year's meeting took place in the city of Visby on the Swedish island Gotland in April (2014). This year's meeting will take place in Helsinki in March (2015).

5) New members of our project group

Last year, three new scientists joined our group: Dr. Ingrid Glimelius from the Clinical Epidemiology Unit, Karolinska University Hospital and Institutet (Sweden), Dr. Maarit Leinonen from the Finnish Cancer Registry (Finland), and Dr. Anne Gulbech Ording from the Department of Clinical Epidemiology, Aarhus University Hospital (Denmark).

3. Describe how the project has increased our knowledge of the prevention, cause and/or cure for cancer (max. 150 words)

In this study we aim to explore the role of pregnancy in preventing or promoting maternal cancer development. Knowledge of whether pregnancy conditions and birth characteristics are associated with maternal cancer risk is important for the understanding of the etiology of specific cancers, and could possibly allow for identification of women at elevated risk and consequent clinical intervention. The number of included cases will be much larger than in earlier studies, and it will be possible to explore associations with presumed risk factors in larger detail than previously done.

4. Outline how Nordic cooperation has added value to this project (max. 100 words)

The Nordic countries, where nation-wide registries have been running for decades, have special preconditions for conducting large epidemiological population-based studies.

Although cancer is a quite common disease, study sub-groups often become small when they are stratified by type of cancer, sex, age and other characteristics. Combining exposure



and outcome data from four Nordic countries gives us reasonable power to study relatively rare events in relation to specific cancers. In this study, we will take advantage of the opportunity to cross-link the population-based medical birth registries with the cancer registries in Denmark, Finland, Norway and Sweden to explore relations between pregnancy conditions and birth characteristics and specific maternal cancers.

The investigators in the project group, from the four Nordic contributing countries, have an extensive knowledge of and experience within the fields of cancer and perinatal epidemiology, and also an extensive knowledge of analysis of population-based registry data.

5. Publications resulting from the NCU research grant

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