

## **Chronic nonmalignant pain and opioid therapy in Denmark. The NOMAC-PAIN study.**

Carrinna Hansen, postdoc, Ph.D., MPH, RN. Department of Neuroanesthesiology, The Neuroscience Centre, Rigshospitalet, University of Copenhagen.

**Background:** Chronic nonmalignant pain (CNP) is a worldwide challenge that needs to be confronted. It has been estimated that CNP affects approx. 20% of adults  $\geq 16$  y of age in Europe. In Denmark, the incidence appears to be high, at approx. 1.8% per year, accounting for 6,000-7,000 new cases. The etiology of CNP includes various intensive pain disorders and complications to surgery. Common to CNP is that the condition often leads to extensive consequences for the individual, the family, and the society as a whole such as high health care costs. These costs are substantial compared to other major chronic diseases. Moreover, CNP may lead to opioid consumption. Studies indicate that Denmark has a high consumption of opioids, compared to the other Nordic countries. However, epidemiological studies to date have mainly been limited to studies including a limited number of opioid products, focusing primarily on cancer pain, or have been studies of smaller scale and with cross-sectional designs. It is important to acquire new and greater knowledge in the area of CNP and opioid use in order to improve and develop existing treatment, prevent long-term use of opioids and reduce healthcare costs and, not least, to further understand the patient's and family's needs.

**Aims:** 1) To determine the distribution and determinants of opioid use among CNP patients. 2) To identify the treatment and socioeconomic characteristics as determinants for potential risk groups among CNP patients. 3) Description of long-term use of tramadol. 4) Pre- and postoperative opioid use after stabilizing surgery in the lower back.

**Material and methods:** Data is accessed through Statistics Denmark using the Danish National Registers: The Danish National prescription Database (since 1995: medication dispensed from pharmacies), The Danish National Registry of Patients (since 1977: hospital admission/diagnosis and outpatient diagnosis since 1995), The Danish Civil Registration System (since 1968: socio, demographic, economic), as well as The Danish Register of Causes of Death (since 1875).

The cohort consisting of all adults  $\geq 16$  y of age who redeemed at least one prescription for an opioid product in the period 1999-2015 (incl.) residing in Denmark. Participants are included at first redeemed prescription for an opioid product using the ATC codes starting with N02AA01 - N02AX06, leading to 2,036,787 individuals.

Exclusion criterion: cancer diagnosis  $\leq 5$  years before or  $\leq 3$  mo after index, lived in Denmark  $< 5$  year before index year, emigrated or died before one year of follow-up.

These centralized comprehensive nationwide databases containing key medical, health care and socioeconomic information, are ideal for analyzing characteristics of CNP patients, subgroups of CNP patients and patterns of opioid use. Several studies are in process.

**Conclusions:** It is expected that these studies will serve as a significant supplement of existing knowledge in the area of opioid consumption among individuals with CNP disorders. In a future perspective of health promotion initiatives, it might be beneficial to include perspectives of risk assessment of long-term opioid use.