Investigation of survival outcomes associated with socioeconomic status

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Scientific Outline

Summary

The socioeconomic factors associated with head and neck cancer incidence are increasingly understood. Less is known about the relationship of socioeconomic status and survival - which has not substantially improved in the past few decades, however there is evidence (largely from ecologically-based studies) that socioeconomic circumstances are associated with poorer prognosis. Moreover, financial problems either ahead of or resulting from head and neck cancer diagnosis and treatment have the potential to impact on outcomes.

Head and Neck 5000 offers a unique opportunity to examine socioeconomic inequalities in head and neck cancer. HN5000 is one of the largest cohort studies of head and neck cancer ever conducted, and includes a wealth of individual socioeconomic, demographic, and behavioural factors, alongside tumour and treatment factors

Even at this relatively early stage in the cohort follow-up, there is much to begin examining in terms of factors associated with poor prognosis.

We aim to examine the patient, treatment, and tumour factors associated with poor survival from a socioeconomic perspective. Our research questions are:

- What are patterns and inequalities of survival at 1-year by socioeconomic factors?
- What patient, tumour, and treatment factors explain these differences?
- Are there changes to financial circumstances / increasing financial difficulties resulting from diagnosis and treatment for head and neck cancer?

We will particularly focus on the role of smoking, alcohol, co-morbidities, and financial circumstances in explaining socioeconomic inequalities in survival over and above factors associated with stage, treatment, and subsite.

Key words : socioeconomic, inequalities, survival, co-morbidities

Background

There has been an increase in the incidence of head and neck cancer in the UK over the last three decades, which is highly associated with socioeconomic status, and the gap in the inequality in incidence between patients from socioeconomically deprived and from socioeconomically advantaged areas has widened since the 1970's (Conway et al., 2007). Furthermore, survival outcomes of head and neck cancer patients are poor with little improvement since the 1980's (ISD Scotland, 2015), and patients of lower socioeconomic statuses have significantly worse survival outcomes compared to those who are more socioeconomically advantaged (Paterson et al., 2002). Financial problems either ahead of or resulting from head and neck cancer diagnosis and treatment have the potential to impact on outcomes. The recent cancer patient survey in Scotland found that almost half of cancer patients (49%) who wanted it received no information on financial help or benefits (Scottish Government 2016).

Explanations for socioeconomic inequalities in the survival of cancer patients are likely to be complex and are rarely described for cancers of the head and neck. Ellis et al. (2012) reported inequalities in survival outcomes of men and women with cancer of the larynx and concluded that the origins of the inequalities were unclear, and it was likely that comorbidities and healthcare access were contributing towards the differences. Woods et al. (2006) carried out a comprehensive review to determine the origins of socioeconomic inequalities in all-cancer survival and concluded that disease stage at diagnosis, access to health services, and comorbidity must explain some of the association. Auvinen (1997) reviewed articles with the aim to explain the possible explanations for the differences in all-cancer patient survival by socioeconomic status. Although Auvinen reported that cancer stage at diagnosis is particularly important, in many of the studies included in the review, inequalities in the survival of cancer patients by social class remained following the adjustment for stage. Auvinen concluded that there is "an urgent need to understand" the factors associated with the inequalities in cancer patient survival outcomes, and suggested further research to be undertaken that includes health behaviour, functional status and comorbidity, choice of and response to treatment, complications, relapse, and cause of death.

Aim and questions

We aim to examine the patient, treatment, and tumour factors associated with poor survival from a socioeconomic perspective. Our research questions are:

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Translation

This work will contribute to understanding inequalities in outcomes for head and neck cancer to inform prognosis; and will contributing to further development of an intervention care package of financial support.

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