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## The Problem

In terms of morbidity and mortality, cancer remains a significant health problem in the United Kingdom, which has led to significant interest in both patients and professionals recognising cancer symptoms. Some studies have argued that sociodemographic inequalities may be partly responsible for differences in when cancer is diagnosed and survival [1].

This suggests the need for improved awareness of cancer symptoms to facilitate early diagnosis and better survival [2], especially in marginalised and disadvantaged groups [1].

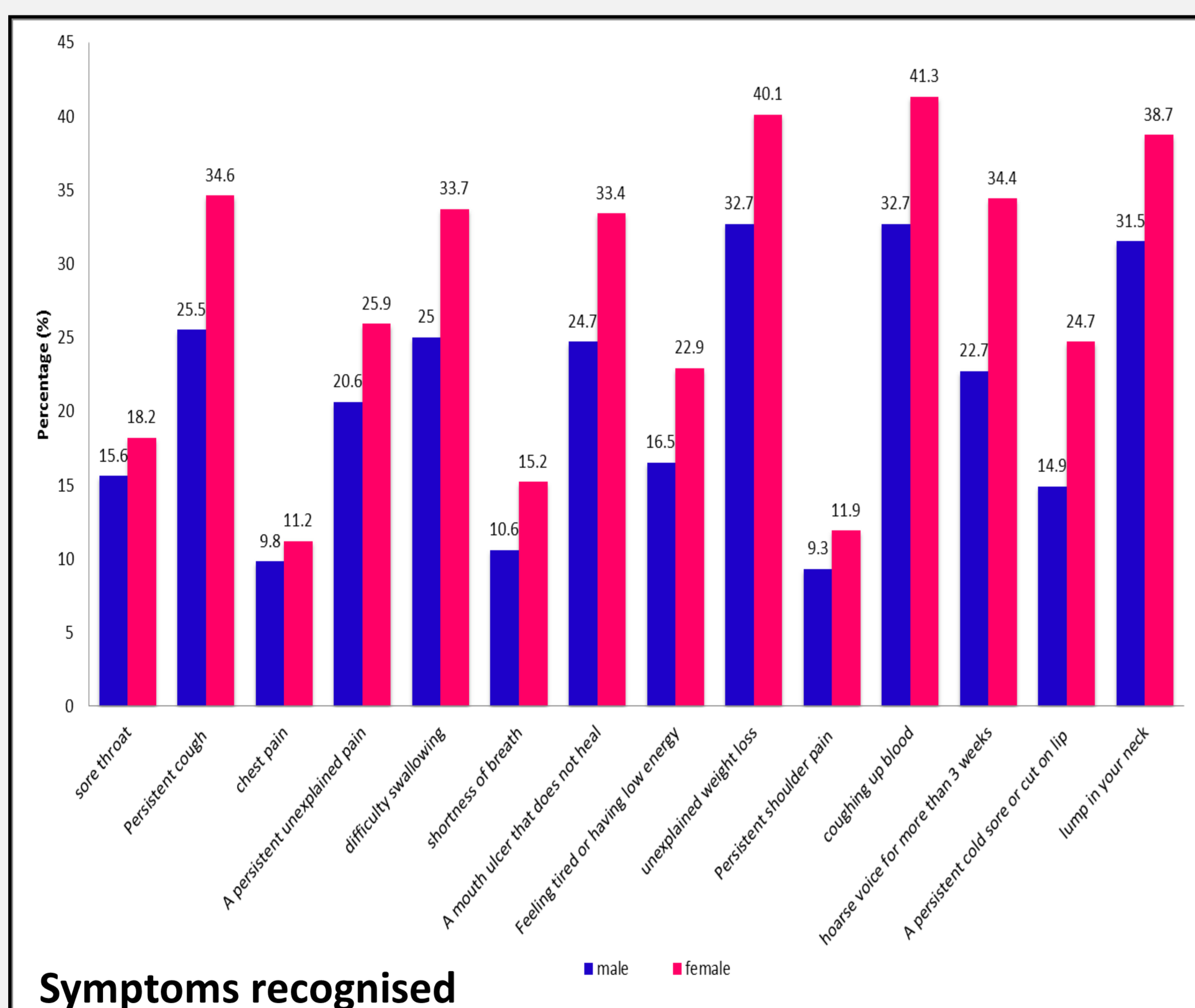
Although there is evidence of an association between socio-economic status (SES) and the awareness of general cancer symptoms by patients [3], no studies have examined differences in the awareness of respiratory or head and neck cancer symptoms among people who have not yet been diagnosed with cancer.

## The Approach

A survey was mailed to 3954 adults (≥50 years, no cancer diagnosis) with a symptom list including 14 respiratory and head and neck cancer symptoms. Identifying a symptom as a potential respiratory or head and neck cancer symptom was regarded as a measure of awareness for that symptom. Respondents were also asked if they had experienced any of these symptoms in the past 3 months, and if so, whether they had sought medical advice.

Data were analysed using SPSS Statistics 22.0. Logistic regression, adjusting for gender, age, relationship status, education, type of accommodation, living alone and cancer history/experience was used for analysis.

## Results



### Acknowledgements

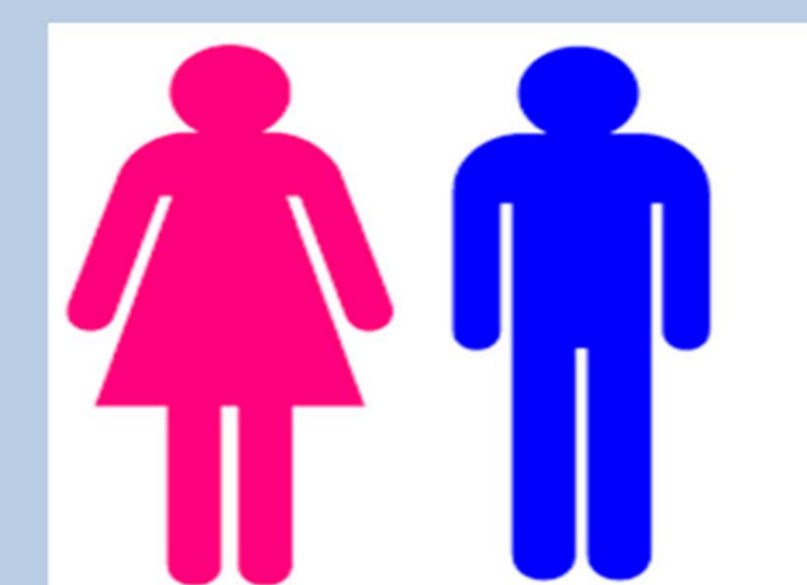
This work was funded by Cancer Research UK. We would like to thank all the SASS respondents, all the volunteers who participated in the study pilot, participating practices; Dr Trish Green and Ms Claire Ward, who helped with the preparation of the questionnaire packs; and our collaborators, Dr Gavin Anderson, Dr Gill Greenwood and Professor Nick Stafford. We also acknowledge the support of the National Institute for Health Research Clinical Research Network.

### References:

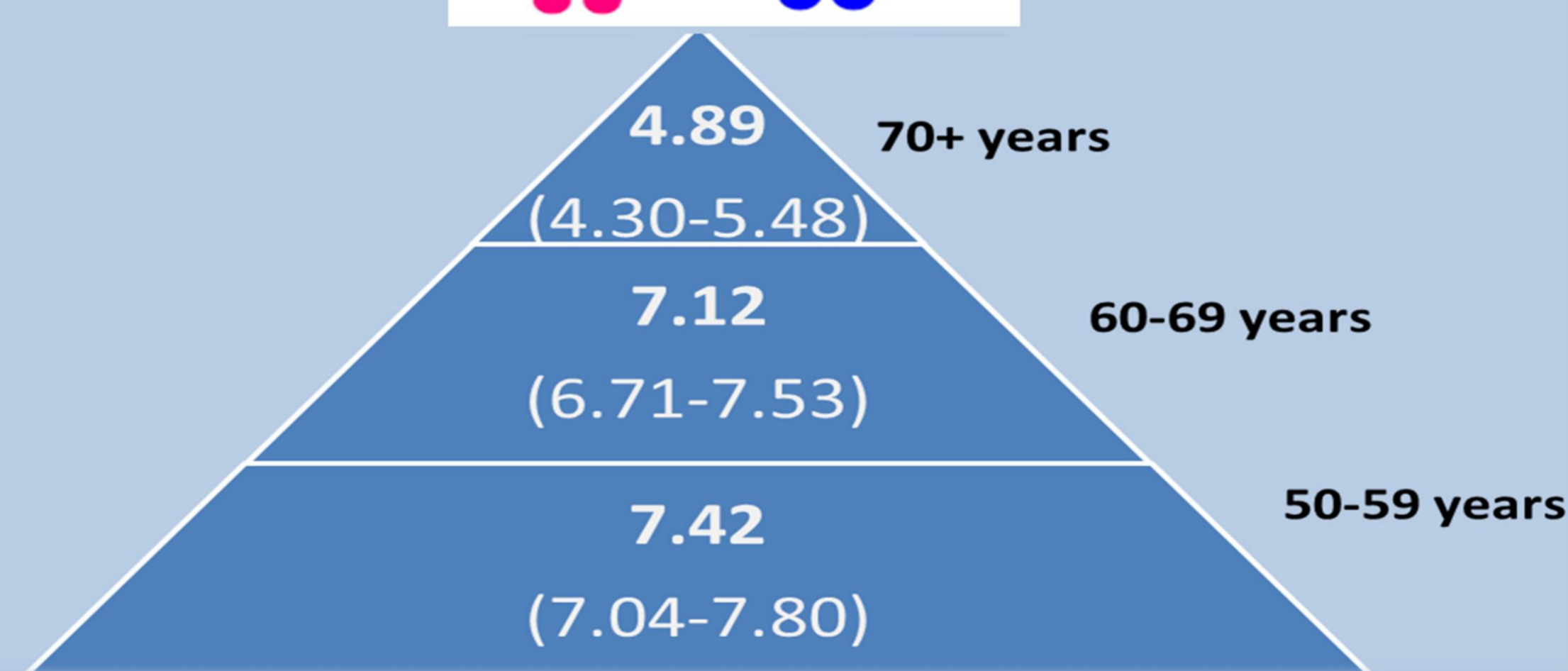
[1] Whitaker KL, Scott SE, Wardle J. Applying symptom appraisal models to understand sociodemographic differences in responses to possible cancer symptoms: a research agenda. *Br J Cancer*. 2015 03/31/print;112(s1):S27-S34.  
[2] Richards MA. The size of the prize for earlier diagnosis of cancer in England. *British Journal of Cancer*. 2009 12/03;101(Suppl 2):S125-S9. PubMed PMID: PMC2790715.  
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## Mean number of symptoms recognised out of 14 (95% CI)

7.21 (6.86-7.56)



6.29 (5.91-6.67)



## Socio-demographic variables associated with awareness of potential symptoms for respiratory or head and neck cancers

- Having **no degree or formal education** was the only demographic variable associated with **lower awareness** of all respiratory and head and neck cancer symptoms
- Those **living in social rented housing** (rented accommodation from local authorities/housing associations) was associated with **lower awareness** for nearly all the cancer symptoms except chest pain, breathlessness, persistent shoulder pain, and hoarse voice (> 3weeks).
- **Females** were **more likely** than males to be aware of persistent cough, difficulty swallowing, breathlessness, persistent mouth ulcer, hoarse voice, and persistent cold sore.

## Prevalence, self-reported consulting for and awareness of Cancer symptoms

After adjusting for other variables, when compared to those who own their houses, respondents living in social rented housing were:

- More likely to have persistent cough (OR=3.594 [2.14-6.03] p<0.001) but less likely to be aware it was a potential cancer symptom (OR=0.507 [0.31-0.82]; p=0.006) ; although there was no significant difference in help-seeking.
- More likely to have the symptom of tiredness (OR=2.381 [1.46-3.88]; p<0.001) but less likely to be aware it was a potential cancer symptom(OR=0.479 [0.27-0.84]; p=0.01); there was no significant difference in help-seeking.

When compared to those who had a degree or higher education, respondents with no formal education:

- Had no significant difference in the prevalence of persistent cough
- Were more likely to seek help for persistent cough (OR=3.056 [1.16-8.04] p=0.024) even though they were less likely to be aware of it as a symptom (OR=0.318 [0.21-0.49]; p<0.001).
- There was no significant difference in terms of prevalence or help-seeking for tiredness.

## Consequence

The level of awareness for respiratory or head and neck cancer symptoms was significantly lower for respondents with no degree or formal education, as well as those living in social rented housing. This may impede early diagnosis of respiratory or head and neck cancers and ultimately survival for people within this socio-demographic profile. Therefore, improved symptom awareness within this group could help to reduce inequalities in diagnosis and survival for respiratory or head and neck cancers.