

Does having “subclinical” thyroid disease have adverse effects on wellbeing, health-related quality of life and cardiovascular disease risk profile in women - a community based study.

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Studies suggest that about 10% of the population have what is called subclinical thyroid disease. This is a biochemical diagnosis such that levels of the hormone that stimulates the thyroid gland are either low or high but the actual levels of thyroid hormone in the blood are normal. Generally, subclinical thyroid disease is more common in women.

Whether subclinical thyroid disease merits therapy remains highly controversial. There is good evidence that SCH is a strong risk factor for the development of overt hypothyroidism, particularly in older women with antithyroid antibodies and the potential health risks of untreated subclinical hyperthyroidism may include atrial fibrillation and bone loss. However, there is considerable uncertainty about whether the treatment of women with mild subclinical thyroid disease results in improved quality of life.

We have evaluated whether subclinical thyroid disease is associated with impaired health-related quality of life and a more adverse cardiovascular disease risk profile in women recruited from the community. 1423 non-health-care-seeking-women, aged 18-75 years who were randomly recruited from the community via the electoral roll from April 2002 to August 2003 participated in this study.

We measured wellbeing (Short-Form 36 (SF-36), the Psychological General Wellbeing Index), thyroid hormone levels, serum lipids and high sensitivity c-reactive protein (hsCRP). Subclinical hypothyroidism (SCH) and subclinical hyperthyroidism (SCHyper) were defined as serum thyroid stimulating hormone (TSH) > 4.0 mIU/L and < 0.5 mIU/L respectively with a normal free thyroxine (free T4) level.

We found that **10.7% of all women had an abnormal TSH** value ie had biochemical subclinical thyroid disease..

The prevalence of a low TSH level by age group range from 1.2 to 6.4% whereas the prevalence of an elevated TSH level ranged from 2.8 to 9.2% and increased with age ($p=0.002$). There were no significant differences between women with SCH or SCHyper and age-matched controls for the total PGWI score or the Mental and Physical Component Scores of the SF-36. Women with SCH were no different from controls for serum lipids or hsCRP. Using linear regression, SCH versus euthyroidism did not make an independent contribution to variation in either total cholesterol or triglycerides, with or without adjustment for age \pm age² \pm BMI.

Thus although subclinical thyroid disease is common in the community we found no association between having this condition and lower wellbeing or impaired health-related quality of life and SCH is not associated with increased serum markers of CVD risk.

