

**PW01-100 - THE RELATIONSHIP BETWEEN ANXIETY, DEPRESSION AND THYROID FUNCTION IN SUBJECTS ON AND NOT ON THYROXINE: THE HUNT POPULATION STUDY**

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**Objective:** There have been conflicting reports on the relationship between thyroid function and mood between studies in subjects on thyroxine and the general population not on thyroxine. We investigated this relationship in a large population study.

**Design:** We analysed data on serum TSH levels and Hospital Anxiety and Depression Scale (HADS) scores from the HUNT 2 study (age  $\geq$  40 years). Following a test for interaction, analyses were performed separately in females on thyroxine (n=1,265) and in people not on thyroxine (males n=9,319 and females n=17,694).

**Results:** More females on thyroxine had high depression and anxiety scores than females not on thyroxine (depression 18.4% vs 13.0%, p< 0.001, anxiety 23.4% vs 18.7% p< 0.001). In those not on thyroxine there was an inverse association between serum TSH and depression score in males (B coefficient = -0.61, 95% CI -0.91 to -0.24, p=0.001) though not in females (B coefficient = -0.07, -0.33 to 0.19), and an inverse association between TSH and anxiety score in both sexes (B coefficient for males = -0.68, 95% CI -1.04 to -0.32, p< 0.001; females -0.37, -0.67 to -0.08, p=0.01). By contrast, in females on thyroxine, TSH was positively associated with both depression (B coefficient = +0.27, 95% CI 0.02 to 0.51, p< 0.05) and anxiety (B coefficient = +0.29, 0.01 to 0.56, p< 0.05).

**Conclusions:** There is a different relationship between thyroid function and depression and anxiety in females on thyroxine compared to individuals with no thyroid disease.