Chronic Widespread Pain in Adolescents Is Highly Associated to Stress and Anxiety

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Background/Purpose: Chronic widespread pain (CWP), one of the hallmarks of fibromyalgia, is not uncommon in adolescents and it has previously been shown that adolescents with pain often become young adults with pain. CWP often co-varies with anxiety, depression, and stress symptoms in adults, but the knowledge regarding this is small in youth and young adults. The aim was to study the associations between CWP, anxiety, depression and stress in adolescents attending first year of high school.

Methods: A computerized questionnaire to 296 adolescents attending Swedish high school, with validated questions regarding presence and distribution of pain (Epipain mannequin), stress symptoms (ELO question), anxiety and depression (Hospital Anxiety and Depression Scale – HADS), and health related quality of life (HRQL as measured by EQ5D). Pain was considered chronic when persistent for more than three months, and the subgroup CWP was defined according to the 1990 ACR criteria for fibromyalgia. Statistical analyses in SPSS v21 with comparison of means by Student’s t-test and proportions by chi2-test or Fischer’s exact test.

Results: 257 (87%) out of 296 eligible students, mean (SD) age 16.1 (0.7) and 65.8% girls, responded to the questionnaire. Prevalence of chronic pain was 20.8% and that of the subgroup CWP was 4.7%, without any gender differences (boys 18.2% vs girls 22.2%; p=0.224, and 3.4% vs 5.4%; p=0.692). High level (4 or 5 on a 5 point scale) of stress symptoms were less common in boys (16.0% vs 28.2%; p=0.015), as was possible or probable anxiety (17.1% vs 44.4%; p<0.001), but not depression (10.3% vs 12.5%; p=0.764). Students with high level of stress reported CWP five times more often than those with less stress (30.4% vs 5.8%; p=0.001). Students with probable anxiety reported CWP ten times more often than students with no anxiety (17.6% vs 1.8%; p=0.001), and
CWP was also more common, but not statistically significant, in students with probable depression (20.0% vs 3.1%; p=0.163). Those reporting CWP had significantly lower HRQL (0.58 vs 0.87; p=0.038) than students with no chronic pain.

**Conclusion:** The high prevalence of chronic pain and the strong associations between CWP and reports of stress and anxiety in adolescents highlights that a multifactorial background to chronic pain must be considered early in life. An apparent lower score in EQ5D also indicates that the presence of CWP has an marked impact on HRQL also in adolescents.

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