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Widespread pain and cardiovascular mortality: the Framingham Heart Study

Musculoskeletal pain is highly prevalent and is associated with a significantly high socioeconomic impact both on the individual and society. Widespread pain (WSP), in particular, has been linked to elevated disability and loss of quality of life. It is a very common problem reported by more than one in ten adults. The prevalence of widespread pain is twice as high in women as in men. The newly proposed ICD-11 lists WSP as the first diagnosis under "primary pain syndrome," thus highlighting it as a primary pain condition.

Widespread pain is defined as concurrent axial pain and pain of the upper and lower segment, as well as left-sided and right-sided pain. The problem is that there is still inconsistent knowledge of the consequences of WSP on physical health and mortality. Previous research suggests that this type of disabling pain is likely to be associated with increased mortality risk which could be due to lower physical activity levels, unfavourable nutritional habits, obesity, diabetes, sleeping problems or substance abuse. Recent research also suggests that there could be a link between cardiovascular disease and pain.

The primary aim of the Framingham Heart Study (FHS) was to investigate whether there is a difference in all-cause mortality between people with and without widespread body pain and to investigate the underlying mechanisms taking into consideration socio-demographic factors, cardiovascular risk factors, cancer history, and lifestyle factors. Pain was assessed using a questionnaire which evaluated the spatial extent of pain. Participants were asked to mark their painful joints on a homunculus with circles that showed upper and lower extremity joints, and four areas of the back and neck, both hands and both feet. The primary outcome of the study was all-cause mortality with a follow-up time of 15 years after pain assessment.

Results of FHS showed that the absolute number of death events over the follow-up period was 1346 (28.4%). 202 (29.3%) deaths were in the WSP group compared with 1144 (28.2%) deaths in the no-WSP group. The all-cause mortality was 22 per 1000 person-years. There was only a slightly increased mortality in patients reporting WSP compared with those without WSP.

With respect to the cause of death, WSP resulted in an increased hazard ratio (HR) for cardiovascular cause of death, but not for cancer mortality. As for non-fatal events, report of WSP resulted in an increased ratio for cardiovascular events, but not for cancer events. Overall, an association was found between cardiovascular mortality and WSP but none for cancer mortality.

This study thus provides evidence that WSP is associated specifically with an increased risk for cardiovascular cause of death. There was an increase in cardiovascular cause of death of more than 40% in the WSP group compared to the non-WSP group.

Source: European Heart Journal
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