

# Connection between depression and osteoporosis detailed

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Research carried out among thousands of people has shown a clear connection between depression and a loss of bone mass, leading to osteoporosis and fractures.

This was revealed by Hebrew University of Jerusalem researchers, Prof. Raz Yirmiya, head of the Brain and Behavior Laboratory, and Prof. Itai Bab, head of the [Bone](#) Laboratory. They further revealed that the relationship between [depression](#) and [bone loss](#) is particularly strong among young women.

Osteoporosis is the most widespread degenerative disease in the developed world, afflicting 1 in 3 women and 1 in 5 men over 50. Sufferers experience decrease in bone density, which often leads to bone fractures. In many cases, these fractures cause severe disability and even death.

Despite the accumulating evidence for a connection between depression and decreased bone density, official authorities, such as the US National Institutes of Health and the World Health Organization, have not yet acknowledged depression as a risk factor for osteoporosis, due to the lack of studies in large samples. To remedy this situation, the Hebrew University researchers assembled the data from all studies on the subject conducted to date, and analyzed them using a special statistical approach called meta-analysis.

The results were recently reported in the journal *Biological Psychiatry*. In

the article the Hebrew University scientists assessed data from 23 research projects conducted in eight countries, comparing bone density among 2,327 people suffering from depression against 21,141 non-depressed individuals.

The results, say the researchers, show clearly that depressed individuals have a substantially lower [bone density](#) than non-depressed people and that depression is associated with a markedly elevated activity of cells that breakdown bone (osteoclasts).

Yirmiya and Bab found that the association between depression and bone loss was stronger in women than men, especially young women before the end of their monthly period. This connection was especially strong in women with clinical depression diagnosed by a psychiatrist, but not in community studies, in which women subjectively identified themselves as being depressed using self-rating questionnaires.

Based on the present findings, Profs. Yirmiya and Bab propose that "all individuals psychiatrically diagnosed with major depression are at risk for developing osteoporosis, with depressed young [women](#) showing the highest risk. These patients should be periodically evaluated for progression of bone loss and signs of osteoporosis, allowing the use of anti-osteoporotic prophylactic and therapeutic treatments".

Source: The Hebrew University of Jerusalem

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