

The Relationship Between Pain and Mental Health

Which comes first, depression or pain? In many cases, that question is nearly impossible to determine. This much is clear: chronic pain has become a multi-billion dollar a year problem in the U.S. Health care costs and lost productivity are the primary areas of loss, and chronic pain has been identified as one of the most common causes of disability applications and compensation. It is difficult to ascertain, though, the costs of the effects of those mental health difficulties that often co-occur with pain. Studies over the last several decades have provided estimates of between 30-60% co-occurrence rate between pain and depression. This link, and its associated financial, societal, and personal repercussions, is a relevant and complicated public health crisis.

Studies have demonstrated that various subpopulations of the American public are at higher risk for developing co-occurring chronic pain and mental health diagnoses, such as depression and anxiety. They are more likely to be middle-aged or older, female, employed less than full-time and have less education. This does not mean that depression and anxiety causes pain or that pain causes depression and anxiety, nor do these things only occur in these subpopulations. What it suggests is that the development of either chronic pain OR the mental health diagnoses can increase an individual's vulnerability to the other. This is an important distinction for professionals who work with such individuals in a variety of settings.

Neurotransmitters are the chemicals in the brain that transmit information and messages from brain cell to brain cell. These chemicals exist in the synapses, or spaces, between the brain cells and help to carry the messages along various pathways. Neurological research has suggested that the neurotransmitters norepinephrine and serotonin are closely linked with both mood and pain management. With depression and anxiety, years of research indicate that the brain's inability to regulate these chemicals have a role in (a correlative though not necessarily causal relationship) the development of these mood-related difficulties. And both chemicals have been shown to play a role in lessening or managing the pain signals sent to the brain from the peripheral nervous system. Thus, it stands to reason that low levels or the brain's dysregulation of both norepinephrine and serotonin may contribute to both mood disorders and chronic pain.

Research has also demonstrated that the co-occurrence of symptoms of pain, anxiety and depression result in poorer pain management outcome and less improvement in mental health symptoms, even with empirically validated treatment for all three conditions. This is when compared to individuals who suffer from only one or even two of the aforementioned diagnoses.

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