Multiple long-term physical health problems increase risk of depression later in life

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Middle-aged people in the UK with at least two long-term physical health conditions are at a greater risk of developing depression or anxiety later in life compared to those with none or only one long-term physical health condition, according to new research from King’s College London.

Published in The Lancet Regional Health - Europe and part-funded by National Institute for Health Research (NIHR) Maudsley Biomedical Research Centre, the study identified that people with multiple respiratory conditions were most likely to develop depression and anxiety later on. This has possible implications for future healthcare services if the Covid-19 pandemic brings about increases in long-term respiratory issues. The study confirms the importance of integrating mental health support early into care plans for those with multiple physical health conditions.

This is the first study of this scale to assess how specific patterns of physical health conditions are associated with common mental health conditions later in life, including anxiety.

Lead author, Dr. Amy Ronaldson from the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London said: “Our large-scale analysis has shown that people with two or more physical health conditions are at greater risk of developing depression and anxiety later in life, compared with those who have none or one physical health condition. What is really interesting is that this risk seems to be greater in those with certain combinations of physical conditions, which has implications for how the integration of mental and physical healthcare should be implemented.”

Currently over a quarter of adults registered with primary care services in the UK have two or more physical health problems, known as multimorbidity, and this is predicted to rise considerably in coming years. Previous research has established a relationship between multiple physical health problems and poor mental health but little is known about how specific patterns of physical health conditions precede the development of depression and anxiety. The study analysed data from UK Biobank on over 150,000 middle-aged people to investigate the relationship between physical health multimorbidity measured at one timepoint and depression and anxiety assessed four to six years later. The research factored in the influence of variables such as age, gender and socio-economic status.

The study showed that people with three physical health conditions had almost double the odds of developing depression later in life compared to those with one or no physical health conditions. The risk of future depression increased proportionally with the number of physical health conditions.

Those with a number of respiratory health conditions such as asthma and emphysema, had the greatest odds of experiencing depression later: more than three times the odds of those with no physical multimorbidity. Patterns of long-term
health conditions where gastro-intestinal conditions such as IBS co-occurred with painful conditions such as back pain or arthritis were also strong predictors of developing depression.

The study also investigated the relationship between multimorbidity and later experiences of anxiety and found similar results to depression in that two or more physical health conditions increased the odds of developing anxiety later in life.

Senior author, Dr. Alexandru Dregan from the IoPPN said: "The finding that the different patterns of physical health conditions confer different levels of risk of later developing depression and anxiety could help inform services as to which patients require which kind of support. Further research is needed to investigate the mechanisms that link the different clusters with depression and anxiety, which can ultimately help us to develop better approaches to supporting those with long term conditions better and providing more integrated care."

Contributing author and Consultant Psychiatrist at South London and Maudsley NHS Foundation Trust, Dr. Jayati Das-Munshi said: "We are gaining more insight into the links between mental and physical health and this study provides important insight into which combinations of long term health conditions are related to depression and anxiety. Through the use of approaches that integrate care for physical and mental health we may be able to help lessen the impact of multiple physical health problems. For example, the Mind and Body Programme is involved in a number of projects seeking to do this across Kings' Health Partners and one example is the IMPARTS initiative which aims to screen for common mental disorders in people with physical health conditions."


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