

Exhaled Breath and Mental Disorders: Is There Any Association?

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Abstract

Nowadays, more and more people experience mental problems. A great number of factors contribute to that, leading to issues regarding their diagnosis and management. Despite the evolution in medicine, understanding their natural course and treatment is still problematic. Exhaled breath analysis is a promising method for studying diseases. The exhaled breath is full of compounds, mainly volatile organic ones in miniature quantities. Its analysis is capable to provide information on the ongoing metabolic processes taking place in the body, which is believed to help in the diagnosis, monitoring and treatment of diseases. Its usage to study mental disorders is a relatively new field. A comprehensive bibliographic search of the appropriate web portals in medicine showed that the profile of the exhaled breath between healthy subjects and ones with a mental disorder is different. This relies on the association between pathological processes such as inflammation and oxidative stress and mental dysfunction. Although the number of studies is not high, they are significant because their findings open new approaches in psychiatry. Further research on exhaled breath analysis and mental disorders is necessary to obtain a clear picture of their association. Moreover, it might give answers to the mechanisms of mental disorders.

Keywords: exhaled breath, mental disorders, neuropsychiatry, inflammation, volatile organic compounds

