Public Health and Social Benefits for Prediction of Early Depression Disorders Using Computer-Based Diagnostic System

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ABSTRACT

Depressive disorder (DD) shortens a healthy and productive human life, has significant public health costs is and associated with high suicide rates. This research was focussed on the development of computer based diagnostic system using FaceReader 6 software for the recognition of facial emotional expressions of different food tastes for the prediction of depression disorder (DD). DD evaluated using clinical diagnostic instruments and depression severity rating scales (Montgomery and MADRS) as well. The results proofed that a patient's facial expression of emotions to different tastes of food can be used as a diagnostic moderator for the development of a new contactless, computer-based diagnostic method and support the creation of algorithm for DD diagnosis. The benefits of this method are evidence from several perspectives (I) patients can use a self-rating instrument to assess DD symptoms; this may act as an incentive to seek professional help; (II) family and community can use an instrument for early recognition of DD symptoms and suicidal tendencies, making it possible to encourage the individual to seek professional health care; (III) general practitioners have a reliable instrument for preliminary diagnosis of DD in primary care, thus saving the time and resources; (IV) public health benefits include early diagnosis and treatment of DD and better outcomes, reductions in disability-adjusted life years and the global burden of the disease. Finally, this method may perspective predict DD at an early stage and may ensure a higher quality of the patients' primary care in the public health system. The authors gratefully acknowledge The Research Council of Lithuania for the funding of this research [Project EMOPSYCHOSCREEN, Grant No. P-MIP-17-49].

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