

# An Instant Diagnosis for Depression by Blood Test

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A blood test for making a diagnosis is a common scenario now, for many disciplines of medicine. However, psychiatry is far behind. It would be an exciting promise to have a diagnosis which is fast, yet reliable. In an attempt to fill the gap, the MDD score, a blood test that can screen for clinical depression, was developed and presented at the annual American Psychiatric Association meeting and it was later published in May and December 2011 respectively [1].

This blood test has been developed as a screening technique and as a more objective way of diagnosing the people with depression. This mode of diagnosis would be unbiased and valuable for those with whom it is difficult to have a conversation with [2]. There are only few blood tests which are available for the detection of Major Depressive Disorder (MDD). Nevertheless, they are either slow or expensive, thus reducing their chances of becoming viable diagnostic tools.

Studies have demonstrated that people with depression have less ethanolamine phosphate [3] in their blood. The DNA analysis [4] which was done for MDD has also demonstrated this. The advent of the phosphate level blood test led to the correct diagnosis of depression, 82% of the time [3].

However, the pathophysiology of depression indicates that this disorder affects the metabolism, the immune system and the nervous system, as well as the hypothalamus and the pituitary and the adrenal glands. The principal benefit of this tool would be in places like the rural communities, where the mental health professionals are rare [5]. This phenomenon is prominent in the developing countries [6]. This will allow the primary health physicians to make informed decisions regarding the psychiatric referral of a patient. This blood test can be used as a screening device that can be used as a basis for the referral to clinicians who specialize in these disorders, as well as a guide for conducting clinical interviews and to assess the response to the interventions. In this regards, this blood test can be used as a tool which can assist the clinicians in making a diagnosis and in evaluating the response of the patients to the interventions.

Diagnosing the psychological disorders requires an expert, for evaluating the number of subjective symptoms which are exhibited by the patient. The positive blood test cannot replace this

valuable information and it should thus be dealt with caution. The patients may be misdiagnosed. The test specifically assesses the blood sample for depression, but because people with mood disorders often exhibit symptoms of other emotional disorders (comorbidities), it is important to consider these disorders when a clinical evaluation is conducted.

Further studies are currently being conducted to improve upon and to test this screening technique. It is still too early to ascertain the viability of this blood test as an effective screening technique for the diagnosis of depression. However, there is a feeling of anticipation as well as concern amongst the mental health care professionals regarding the implications of this breakthrough. This diagnosis offers an exciting promise for the patients, especially for those who have suicidal tendencies. It can make a difference of life or death. An additional challenge to a fledgling MDD score would be whether it can differentiate the subtypes of depression. However, the final obstacle in the way of its success would be the acclimatization of the psychiatrists to the blood tests as a tool for diagnosis.

## REFERENCES

- [1] Papakostas GI, Shelton RC, Kinrys G, Henry ME, Bakow BR, Lipkin SH, et al. "Assessment of a multi-assay, serum-based, biological diagnostic test for major depressive disorder: a pilot and replication study" *Molecular Psychiatry*. 2011 Dec 13. doi: 10.1038/mp.2011.166. [Epub ahead of print].
- [2] Hunter M. "A blood test for depression". *Biological Psychiatry. Press release*. 22 July 2010.
- [3] Spak K. "New Blood Test Checks for Depression". Posted on May 25, 2011. <http://www.newser.com/story/119373/new-blood-test-checks-for-depression.html>.
- [4] Pajer K, Andrus BM, Gardner W, Lourie A, Strange B, Campo J, et al. "The discovery of blood transcriptomic markers for depression in animal models and the pilot validation in subjects with early-onset major depression". *Translational Psychiatry*. 2012 2, e101, doi:10.1038/tp.2012.26.
- [5] Sharp LK, Lipsky MS. "Screening for depression across the lifespan: a review of the measures for use in primary care settings". *American Family Physician*. 2002; 66(6):1001-08.
- [6] Gilbody S, House AO, Sheldon TA. "Screening and case finding instruments for depression". *Cochrane Database of Systematic Reviews*. 2005;(4):CD002792.

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