New method can predict 80% of cases of postnatal depression

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Photo: SINC

Worldwide, 13% of women who give birth suffer from postnatal depression, which causes a significant deterioration in a mother's quality of life and her ability to care for her baby. Now, Spanish researchers have developed a model to diagnose this illness with a predictive power of 80% - the best result to date for this kind of depression.

"Early diagnosis of postnatal depression would make it possible to intervene to prevent it from developing among women at risk", Salvador Tortajada, lead author of the study and a researcher at the Polytechnic University of Valencia (UPV), tells SINC.

The experts studied data on 1,397 Spanish women who gave birth between December 2003 and October 2004 in seven hospitals in Spain,

and devised various models that can predict - with an 80% success rate - which mothers run the risk of developing depression during the first weeks after giving birth.

This study, which is the first of its kind in Spain and has been published recently in the journal Methods of Information in Medicine, gives the best results to date in terms of predicting this illness. "Now it needs clinical evaluation, and for psychiatrists to start to test it directly on patients in order to study the true potential of these tools", says Tortajada.

The researchers used artificial neuronal networks and extracted a series of risk factors highlighted in previous studies - the extent of social support for the mother, prior psychiatric problems in the family, emotional changes during the birth, neuroticism and polymorphisms in the serotonin transport gene (genes with high levels of expression lead to an increased risk of developing the illness).

They also discovered two protection factors that reduce the risk of depression - age (the older the woman the lower her chance of depression), and whether or not a woman has worked during pregnancy (which reduces the risk). The researcher points out that: "it can be seen that these factors are relevant in the neuronal networks, but not by using other statistical methods". The path is now clear for future studies to corroborate these findings.

However, many studies have shown that between 10 and 15% of women who give birth suffer from depression, normally between the second and third month after having given birth. This illness affects the patient's emotional and cognitive functions (in extreme cases leading to suicidal tendencies), and may have serious knock-on effects on the child's future development.

<u>More information:</u> Tortajada, S., Garcia-Gomez, J. M., Vicente, J., Sanjuan, J., de Frutos, R., Martin-Santos, R., Garcia-Esteve, L., Gornemann, I., Gutierrez-Zotes, A., Canellas, F., Carracedo, A., Gratacos, M., Guillamat, R., Baca-Garcia, E., Robles, M. "Prediction of Postpartum Depression Using Multilayer Perceptrons and Pruning". *Methods of Information in Medicine*, 48 (3): 291-298, 2009.

Source: <u>AlphaGalileo</u>

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