

## **Mothers diagnosed as small for their gestational age present poorer mental health than fathers**

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Research news

**A study conducted by a multidisciplinary team of scientists from the University of Granada and the Virgen de las Nieves Hospital in Granada has analysed the psychological distress (stress, anxiety, depression) experienced by mothers and fathers of babies considered small for their gestational age (SGA)**

**Researchers have designed the 'VIVEmbarazo' app, which provides parents-to-be with guidance, via their mobile phones, to assist them through a Prenatal Psychological Support Programme**



Mothers of babies diagnosed as being small for their gestational age (SGA) during pregnancy present poorer mental health than their male partners, and more symptoms of psychological distress. In addition, resilience levels are lower among these mothers than among fathers.

These are among the findings of a study conducted by a multidisciplinary team of scientists from the University of Granada (UGR) and the Gynaecology and Obstetrics Service and the Paediatric Service of the Virgen de las Nieves Hospital in Granada. The study, which has analysed the level of psychological distress (stress, anxiety, and depression) experienced by mothers and fathers of SGA babies and their resilience or ability to overcome it, and how these influence the neurodevelopment of the SGA baby.

Expectant parents experience pregnancy (and the circumstances associated with it)

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with a sense of anticipation, but also some degree of stress—albeit perhaps experienced differently by mothers and fathers. However, when pregnant women suffer chronic stress, they are more likely to be able to cope if they have high levels of resilience, defined as the ability to successfully withstand a threatening and challenging situation, or even thrive in the face of adversity. Resilience, therefore, can be seen as an indicator of mental health.

This prospective study, which has been published in the prestigious journal *Health and Quality of Life Outcomes*, compared two groups of parents and new-borns: the case-study group (52 mothers and fathers and 26 SGA babies) and the control group (68 mothers and fathers and 34 babies presenting a healthy or adequate growth rate for their gestational age (AGA)).

### **Symptoms of psychological distress**

The findings indicate that mothers do not present as high a level of mental health during pregnancy as their male partners, according to their symptoms of psychological distress. Furthermore, resilience levels are lower among mothers than among fathers.

Neurobehavioral performance among SGA new-borns is under-developed compared to that of AGA new-borns. This result could be aggravated by high stress and low resilience among mothers, as both factors can predict neurobehavioral behavior in the new-born.

**María Mercedes Bellido-González**, researcher at the Department of Evolutionary and Educational Psychology of the UGR and lead author of this work, explains: “In light of these findings, our multidisciplinary team, consisting of psychologists, gynaecologists, paediatricians and software engineers, created a Prenatal Psychological Support Programme, known as PAP-PRE. This aims to reduce psychological distress, increase resilience, and encourage shared parental responsibilities during pregnancy and the baby’s first years of life.”

PAP-PRE is aided by the ‘VIVEmbarazo’ app, which guides parents, via their mobile phones, through the programme. This is tailored to the particular needs and daily life of each family.

Sara Balderas Díaz, Gabriel José Guerrero Contreras, María José Rodríguez Fortiz, and José Luís Garrido Bullejos, researchers from the UGR’s Department of Software Engineering, were involved in the design and development of this app, as well as in the physiological monitoring of the pregnant women via ‘smart’ wristbands equipped with sensors.

Through this app, experts can offer guidelines to mothers and fathers to help them manage stress, watch their diet and exercise, and communicate with their unborn baby through a range of stimuli: visual (light), auditory (music, songs, stories), and tactile (massage). In addition, a gynaecologist and midwife are on hand to explain how to carry a healthy pregnancy and provide any advice necessary.

Following the application of the PAP-PRE, Bellido-González concludes: “We are registering a high level of satisfaction among the families via the Citizens’ Advice Unit of the Virgen de las Nieves University Hospital, Granada. We are observing that the research we have undertaken is having a positive impact on the well-being of families with babies at neurological risk.”

### **Bibliography:**

Bellido-González, M., Robles-Ortega, H., Castelar-Ríos, M.J., Díaz-López, M.Á., Gallo-Vallejo, J.L., Moreno-Galdó, M.F., & de los Santos-Roig, M. (2019). ‘Psychological distress and resilience of mothers and fathers with respect to the neurobehavioral performance of small-for-gestational-age newborns’. *Health and Quality of Life Outcomes*, 17(1), 54.

VIVEmbarazo: [www.safecreative.org/work/1811129020515-ipr-745-vivembarazo](http://www.safecreative.org/work/1811129020515-ipr-745-vivembarazo)

### **Image captions:**



Two of the UGR researchers demonstrate the ‘VIVEmbarazo’ app



UGR researchers demonstrate the ‘VIVEmbarazo’ app

**Media enquiries:****María Mercedes Bellido-González**

Department of Evolutionary and Educational Psychology, University of Granada

Tel.: +34 958 241327

Email: [mmbellid@ugr.es](mailto:mmbellid@ugr.es)