Association of depressive symptoms, pain catastrophizing and anxiety with perceived stress in women during labor

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Abstract

Aim: There is limited literature regarding the association between perceived stress with other psychological risk factors, such as depression, pain catastrophizing and anxiety in women during labor in the local population. Clarifying the association between these psychological risk factors and perceived stress may help to provide more insight into maternal vulnerability to stress and improve care for women during labor. This study aims to identify associations between depressive symptoms, pain catastrophizing and anxiety with perceived stress among nulliparous women during labor.

Methodology: This is a secondary analysis of a prospective cohort study investigating labor epidural analgesia regimens. The study included a sample of 801 healthy, nulliparous women who requested for epidural analgesia in early labor. The Perceived Stress Scale (PSS) was used to measure perceived stress, and the Edinburgh Postnatal Depression Scale (EPDS) was used to measure depressive symptoms. State-Trait Anxiety Inventory (STAI) and Pain Catastrophizing Scale (PCS) were used to measure anxiety and pain catastrophizing respectively. All questionnaires were administered during labor once participants had received epidural analgesia and pain relief was achieved. The data was analyzed using univariate and

multivariable logistic regression models to identify possible factors associated with high perceived stress (PSS $\geq$ 16).

Results: Out of 801 women, 411 (51.9%) had high perceived stress (PSS $\geq$ 16). 215 out of 801 women (26.8%) had depressive symptoms (EPDS $\geq$ 10). A multivariable regression analysis revealed that depressive symptoms (OR 2.16, 95%CI 1.36 to 3.44, p = 0.0012), increasing trait anxiety score (OR 1.17, 95%CI 1.14 to 1.20, p < 0.0001), and increasing pain magnification score (OR 1.12, 95%CI 1.05 to 1.19, p = 0.0008) were independently associated with high perceived stress (AUC = 0.84).

Conclusion: Depressive symptoms, pain magnification and trait anxiety were significantly associated with perceived stress in nulliparous women during labor.