Chronic Stress and Ovarian Function in Female Childhood Cancer Survivors

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OBJECTIVES: To explore the relationships among perceived stress, biomarkers of hypothalamic–pituitary–adrenal (HPA) activity, gonadotropin levels, and anti-Müllerian hormone (AMH) in female childhood cancer survivors (CCSs).

SAMPLE & SETTING: 24 female CCSs from the Royal Hospital for Sick Children in Edinburgh, Scotland, were included in the study.

METHODS & VARIABLES: Perceived stress was measured using the Perceived Stress Scale. HPA activity was measured using salivary cortisol and hair cortisol. Ovarian function was measured using serum gonadotropin levels and serum AMH levels. Latent growth curve modeling was used to determine diurnal cortisol slope and intercept. Bayesian structural equation modeling was used to explore the relationship among perceived stress, biomarkers of HPA activity, and ovarian function.

RESULTS: The authors found an inverse association between perceived stress and ovarian function and a positive association between biomarkers of HPA activity and ovarian function.

IMPLICATIONS FOR NURSING: Further research is needed to understand factors contributing to risk for post-treatment reproductive dysfunction in female CCSs.

KEYWORDS: childhood cancer survivors; ovarian function; biomarkers; perceived stress

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