

**SALIVA CORTISOL AND DEHYDROEPIANDROSTERONE  
(DHEA) AS BIOCHEMICAL INDICATOR  
TO EVALUATE JOB STRESS**



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**ABSTRACT**

Job stress is known as a risk factor of health disorders. The purpose of this study is to examine whether saliva cortisol, dehydroepiandrosterone (DHEA), and cortisol/DHEA ratio (C/D ratio) are the biochemical indicators to evaluate job stress. The subjects were 115 female nursery school teachers. Job stress was evaluated using the Effort-Reward Imbalance model: effort (high or low), reward (high or low), effort-reward imbalance (high or low), overcommitment to work (high or low), and combination of effort-reward imbalance and overcommitment (high, intermediate, or low). Cortisol and DHEA in saliva collected at 9:00hr, 12:00hr, and 15:00hr in a working day were measured with the liquid chromatography-tandem mass spectrometry (LC-MS/MS) method. Repeated-measured analysis of variance revealed that all the job stress indicators showed insignificant interaction by time ( $p > 0.05$ ) and main effect ( $p > 0.05$ ) on saliva cortisol, DHEA, or C/D ratio. The present study does not exhibit significant associations between job stress and saliva cortisol, DHEA, and C/D ratio. Daytime saliva cortisol, DHEA, and C/D ratio may not work as the biochemical indicators to evaluate job stress.

**KEY WORDS: JOB STRESS / EFFORT-REWARD IMBALANCE MODEL / SALIVA / CORTISOL / DEHYDROEPIANDROSTERONE (DHEA)**

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