



## Abstract

**Grant Number:** 1R01NR005000-01A2

**PI Name:** GROER, MAUREEN W.

**PI Title:**

**Project Title:** Influence of Lactation on Postpartum Stress and Immunity

**Abstract:** *DESCRIPTION (provided by applicant): The long-term objectives of the research are to understand the regulation of neuroendocrine and immunological responses to naturalistic stress in postpartum women, and to determine if lactational state is associated with significant differences in these variables. It is known from animal studies that lactation confers stress resistance, which may be accompanied by immunologic protection during stress. Clinical benefits of lactating may therefore include a maternal health-protecting effect. Most of the research studies on postpartum women do not distinguish lactational state, yet all animal studies naturally are of lactating organisms. Since many women do not lactate, it is essential that knowledge of the neuroendocrinology, stress responses, immune parameters, and health effects of lactating and non-lactating women be explored to determine if any differences of importance do exist. The study will analyze relationships between lactational state and stress, hormones, immune function, and symptoms of infection. The data will provide new information about whether a lactational stress resistance exists in the human species, and if lactation confers any immunological or health benefit to the mother. The specific aims of this study are to 1) To analyze perceived stress, stressful life events, mood states, levels of stress-associated hormones, and relationships among these variables in lactating compared to non-lactating women; 2) To analyze immune variables and occurrence and severity of symptoms of common infection in lactating compared to non-lactating women; 3) To analyze relationships between stress, and mood, variables, immune variables, and incidences and severity of symptoms of common infection in lactating and non-lactating women. Maternal health, and immunity will be examined at 4-6 weeks postpartum. Stress will be measured as both life events stress and perceived stress. Mood states are determined by scores on the*

*Profile of Mood States. Stress-associated hormones are analyzed in serum and include prolactin, oxytocin and cortisol, while immune function is assayed through cytokines, T-cell proliferation, immunoglobulin level, neopterin levels and CD markers. Symptoms of infection are measured by the Carr SCL.*

***Thesaurus Terms:***

*immunoregulation, lactation, postpartum, stress*

*T lymphocyte, cytokine, emotion, hormone regulation /control mechanism,*

*immunoglobulin, neuroendocrine system, psychoneuroimmunology*

*female, human subject, patient oriented research, psychological test, women's health*

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