EPV850

Maternal burnout dynamics: identifying most vulnerable groups

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Introduction: While the first months of motherhood are traditionally considered to be the most challenging ones, it is essentially to scientifically research and understand the dynamics of the maternal burnous so the family members, the health professionals and the social services are warned accordingly.
Objectives: Our research was aimed at studying the association between maternal burnout and the age of the mother, as well as burnout dynamics during the first years of motherhood.
Methods: A maternal burnout questionnaire in Russian (the Maternal Burnout Assessment Tool, MBAT), being an adaptation of the Burnout Assessment Tool to the motherhood context, was used to assess burnout tendencies in mothers. The sample consisted of 792 Russian-speaking mothers with children up to seven years of age. Single-factor analysis of variance was used for data analysis (Kruskal-Wallis test).
Results: As shown in Table 1 below, our research demonstrates that the highest level of the mean emotional impairment score (being one of the burnout symptoms) is associated with the youngest group of mothers. No further associations of the mother's age with the burnout symptoms were discovered.

Table 1.

Mother's age	Younger than 25	From 25 to 30	From 31 to 35	From 36 to 40	Older than 40	*p*
Emotional impairment	3.07	2.78	2.94	2.99	2.79	0.015

As shown in Table 2 below by the mean scores, our research demonstrates that burnout symptoms accumulate and strengthen over time.

Table 2.

Child's age	Younger than 6 months	From 6 months to 1 year	From 1 year to 1 year and 6 months	From 1 year and 6 months to 3 years	From 3 years to 7 years	*p*
Burnout	2.51	2.53	2.27	2.77	2.77	<.001
Exhaustion	2.82	2.87	2.92	3.18	3.12	<.001
Distancing	1.98	1.93	2.07	2.21	2.18	0.007
Emotional impairment	2.84	2.83	2.79	3.08	3.02	0.005

Conclusions: Based on the above, attention should be paid by the supporting caregivers and health professionals involved to the mothers mothers irrespective of their age and to mothers with children aged upwards of one and a half years as the most vulnerable group. Research on samples of mothers with schoolchildren and adult children is advisable.

Disclosure of Interest: None Declared

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The Effect of Bilateral Non-Invasive Vagus Nerve Stimulation on Stress Biomarkers, Depression, Anxiety, and Sleep in Healthy Adults

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Introduction: Stimulation of the vagus nerve influences biomarkers associated with both the hypothalamic–pituitary–adrenal (HPA) axis and the autonomic nervous system. The goal of the study was to evaluate the effect of transcutaneous vagus nerve stimulation (tVNS) on stress biomarkers and related symptoms and compare the effect of unilateral and bilateral stimulation.
Objectives: Stimulation of the vagus nerve modulates the hypothalamic–pituitary–adrenal (HPA) axis and autonomic nervous system, influencing stress physiology and mental health. This study evaluated the safety and effectiveness of a non-invasive vagus nerve stimulation (nVNS) device (Pulsetto) in reducing stress-related biomarkers and improving self-reported symptoms in healthy adults.
Methods: A total of 40 participants (21–64 years; 8 men, 29 women) were enrolled; 37 completed the study. Participants applied transcutaneous vagus nerve stimulation twice daily (8 minutes/session) for 4 weeks. Stimulation was randomized to unilateral or bilateral. Hair samples were collected at baseline and 4 weeks for cortisol and cortisone analysis. Validated questionnaires (PHQ-9, GAD-7, PSQI) assessed depression, anxiety, and sleep at baseline, 2 weeks, and 4 weeks.
Results: Bilateral stimulation significantly reduced hair cortisol ($p = 0.024$), while unilateral did not ($p = 0.159$). A trend-level reduction in cortisone was observed overall ($p = 0.059$), with stronger effects in the bilateral group. Cortisol and cortisone changes correlated positively ($\rho = 0.50$, $p = 0.002$). Self-reported symptoms improved significantly: depression (PHQ-9, $p < 0.001$), anxiety (GAD-7, $p < 0.001$), and sleep quality (PSQI, $p < 0.001$), with consistent effects in both unilateral and bilateral subgroups. Overall, depressive symptoms dropped by 56%, anxiety by 45%, and sleep disturbances by 41% within 4 weeks.
Conclusions: Bilateral non-invasive vagus nerve stimulation effectively reduces biological stress markers andimproves symptoms of depression, anxiety, and sleep disturbance in healthy adults. These findings highlight nVNS as a promising non-pharmacological intervention for stress-related conditions.

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