# Article information:

Hypothalamic-Pituitary-Adrenal axis dysfunction by early life stress - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0304394021004158?casa_token=XBWNH10373YAAAAA%3AowZpV-WdLI0rz-ZcfAqpd2DYjUwD9L9LJuJaL_Z-k4WO83ohiDnle0zmqDtzsanHPsqB0Bp9DQ>

# Article summary:

1. Early life stress (ELS) can lead to persistent dysregulation within the hypothalamic-pituitary-adrenal (HPA) axis, increasing the risk for severe mental health disorders in adulthood.

2. The ability of circulating glucocorticoids to exert negative feedback on the secretion of HPA hormones through binding to mineralocorticoid (MR) and glucocorticoid (GR) receptors is crucial in maintaining homeostasis and limiting vulnerability to stress-related diseases.

3. Abnormal activation of the HPA axis and increased cortisol levels are potential explanations for many features of ELS, negatively influencing child development and affecting all spheres of an individual's life.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article "Hypothalamic-Pituitary-Adrenal axis dysfunction by early life stress" provides an overview of the relationship between early life stress (ELS) and the hypothalamic-pituitary-adrenal (HPA) axis, which is responsible for maintaining homeostasis in response to stress. The article highlights that ELS can lead to persistent dysregulation within the HPA axis, which may increase the risk of developing severe mental health disorders in adulthood.

Overall, the article appears to be well-researched and informative. However, there are a few potential biases and limitations that should be considered. For example, the article focuses primarily on the negative effects of ELS on HPA axis functioning and mental health outcomes, without exploring potential protective factors or interventions that may mitigate these effects. Additionally, while the article notes that genetic predisposition may impact vulnerability to psychological stress-related diseases, it does not delve into specific genetic factors or their interactions with environmental influences.

Another limitation of the article is its reliance on animal studies and correlational research designs, which may limit generalizability to human populations or establish causality. Additionally, while the article notes that cortisol mediates feedback regulation of the HPA axis through mineralocorticoid (MR) and glucocorticoid (GR) receptors, it does not explore potential sex differences in receptor expression or sensitivity.

Despite these limitations, the article provides valuable insights into the complex relationship between ELS and HPA axis functioning. It highlights the importance of considering early life experiences when assessing mental health outcomes and suggests potential avenues for future research and intervention development.

# Topics for further research:

* Protective factors for early life stress and mental health outcomes
* Genetic factors and vulnerability to psychological stress-related diseases
* Sex differences in mineralocorticoid and glucocorticoid receptor expression and sensitivity
* Longitudinal studies on the effects of early life stress on HPA axis functioning
* Interventions for mitigating the effects of early life stress on mental health outcomes
* The role of epigenetic mechanisms in the relationship between early life stress and HPA axis dysfunction.

# Report location:

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