

## عنوان مقاله:

Transcriptional and Epigenetic Changes of Brain Derived Neurotrophic Factor Following Prenatal Stress: A Systematic Review of Experimental Studies

## محل انتشار:

هشتمین کنگره علوم اعصاب و پایه و بالینی (سال: 1398)

تعداد صفحات اصل مقاله: 1

## نویسندگان:

Negin Badihian - *Child Growth and Development Research Center, Research Institute for Primordial Prevention of Non-communicable Diseases, Isfahan University of Medical Sciences, Isfahan, Iran*

Seyedeh Shahrbanou Daniali - *Child Growth and Development Research Center, Research Institute for Primordial Prevention of Non-communicable Diseases, Isfahan University of Medical Sciences, Isfahan, Iran*

Roya Kelishadi - *Child Growth and Development Research Center, Research Institute for Primordial Prevention of Non-communicable Diseases, Isfahan University of Medical Sciences, Isfahan, Iran*

## خلاصه مقاله:

**Background and Aim :** Studies performed in recent years, emphasize the importance of gestational period in neuropsychological development. One of the genes that play important roles here and may undergo changes by prenatal stress (PNS) exposure, is the gene coding brain derived neurotrophic factor (BDNF). This systematic review aims to investigate transcriptional and epigenetic changes of BDNF in the brain caused by PNS in experimental studies. **Methods :** Systematic search of PubMed, Scopus, Web of Science and Cochrane CENTRAL databases were performed based on the predefined protocol. The PRISMA statement was used for reporting the present study. **Results :** Primary searches resulted in 2132 studies. Excluding unrelated studies, finally 43 studies were found to meet our inclusion criteria. Rats, mice and guinea pigs were used in 28, 14 and 1 studies, respectively. Most of the studies evaluated hippocampus or prefrontal cortex. Most of the experiments used prenatal restraint stress paradigm and investigated the changes only in male offspring. Most of the experiments induced stress almost during third trimester of pregnancy. Decreased or unchanged BDNF total mRNA and BDNF mature protein, with hypermethylation in the coding exons following PNS were the most reported findings. Day of the sacrifice varied significantly between studies. **Conclusion :** PNS during critical periods of brain development can lead to long lasting persistent effects on different brain regions of the offspring. Hippocampus and PFC are the most vulnerable regions and could represent different transcriptional and epigenetics changes of BDNF gene following PNS. Further studies evaluating the importance of these findings in humans are essential.

## کلمات کلیدی:

Brain Derived Neurotrophic Factor, Prenatal Stress, Brain, Experimental Studies, Systematic Review

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/976532>



