Houston, Apr 5 (PTI) Electrical stimulation of a deep, middle brain structure may block pain signals at the spinal cord level without drug intervention, according to a new study.

The process also triggers the release of beneficial dopamine, which may reduce the emotional distress associated with long-term pain, researchers said.

"This is the first study to use a wireless electrical device to alleviate pain by directly stimulating the ventral tegmental area of the brain," said Yuan Bo Peng from University of Texas in the US.

"While still under laboratory testing, this new method does provide hope that in the future we will be able to alleviate chronic pain without the side effects of medications," said Peng.

For the study, researchers used their patented custom-designed wireless device to demonstrate that stimulation of the ventral tegmental area reduced the sensation of pain.

They also confirmed that this stimulation reduced pain signals in the spinal cord, effectively blocking the perception of pain.

The findings were published in the journal Experimental Brain Research.