



well.

### Multiple causes of problems

The researcher believes a combination of factors is responsible for the children's problems.

As babies, many of the children suffered symptoms of withdrawal from exposure to methadone or Subutex in the womb. Withdrawal can be extremely stressful over an extended time and can lead to elevated levels of the stress hormone cortisol, which in turn can lead to memory problems.

Methadone and Subutex disrupt neurotransmitters in the human brain, inhibiting the efficiency of impulse transmission between nerve cells. The environment in which children live can also affect their cognitive abilities.

"Most of these children live with their biological mother," notes Dr Konijnenberg. "Many are single mothers who have struggled with mental health problems, so this can have an impact on their children as well."

### Children better off when pregnant mothers receive treatment

Research has not yet compared the children of mothers undergoing opioid maintenance treatment (OMT) with the children of heroin users. But there are many other studies on mothers who continue to use narcotic substances during pregnancy.

"Comparing the results of these studies, we see that the OMT children fare much better. Despite the disorders of behavioural and emotional regulation that some of the OMT children exhibit, in general they do well, and none appear to have suffered major harm," concludes Konijnenberg.

 [Methadone children develop more problems involving attention span, fine motor coordination, self-control of behaviour, and working memory. \(Illustrative photo: Colourbox\)](#) [7]

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Darren McKellep/Carol B. Eckmann

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