

Kisspeptin boosts male sexual appetite and reduces anxiety

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Increased activity of the hormone, kisspeptin, enhances sexual attraction and decreases anxiety in male mice, according to new research presented today at the Society for Endocrinology annual conference in Harrogate. The study is the first to identify that kisspeptin has an important role in regulating sexual and social behaviour and may be a new target for tackling male sexual dysfunction and anxiety-related disorders.

Kisspeptin is a hormone typically associated with development during puberty and pregnancy, however, [neurons](#) responsive to kisspeptin have also been discovered in a part of the brain called the amygdala - a region central to regulating emotional and [sexual behaviours](#), such as anxiety or social interaction. The posterodorsal medial area of the amygdala (MePD), where the kisspeptin-responsive neurons were found, is particularly associated with pheromone-related reactions, which suggests that kisspeptin may affect sexual behaviours.

To investigate the role of these MePD kisspeptin neurons in sexual behaviours, Dr Adekunbi and colleagues from King's College London used a sophisticated and precise approach to turn on the kisspeptin-responsive neurons in the MePD of male mice and assessed the effects on their social, sexual and anxiety-related behaviours. When the kisspeptin neurons were activated, male mice paid more attention to female [mice](#) and engaged in more socially interactive [behaviour](#). They also exhibited fewer signs of anxiety in a standard test. Taken together, these findings indicate that kisspeptin-responsive neurons of the MePD are coordinating sexual motivation and anxiety behaviours in a manner

that encourages sex, and therefore increases the chances of successful reproduction.

Dr Adekunbi comments, "In men, anxiety-related disorders occur in tandem with sexual dysfunction. The findings of our study suggest that activation of MePD kisspeptin neurons coordinates sexual preference and anxiety behaviour towards copulation, indicating that amygdala kisspeptin functionally promotes maximal reproductive success in the male."

Although it is unclear whether kisspeptin has a similar effect in [female mice](#), this study highlights an important new role for kisspeptin in reproductive biology that may lead to new treatments for [male sexual dysfunction](#) and anxiety-related disorders in the future. Several studies have shown that men are more attracted to women around the time of ovulation, a behaviour that may be partly influenced by kisspeptin-responsive neurons of the MePD in humans.

Dr Adekunbi and colleagues now plan to further investigate the function of MePD kisspeptin neurons by using the same precision technology to turn them off and examine the subsequent effect on sexual and [anxiety](#) behaviours. Dr Adekunbi says, "We can speculate that kisspeptin may modulate sexual orientation but this needs further confirmation, our planned work to silence the MePD kisspeptin neurons may provide some insight into this. For example, when the neurons are inactivated, will the male mouse prefer to interact with a male mouse over a female?"

More information: Abstract P321: Kisspeptin in the posterodorsal medial amygdala modulates sexual partner preference and anxiety in male mice

Provided by Society for Endocrinology

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