The Pharmacokinetics of Ketamine in the Breast Milk of Lactating Women: Quantification of ketamine and metabolites

Philip Wolfson[1], Rob Cole[2], Kara Lynch[3], Cassandra Yun[3], Jason Wallach[4], Julane Andries[1], and Melissa Whippo[1]

[1]The Ketamine Research Foundation
[2]Hospice East Bay
[3]University of California San Francisco
[4]University of the Sciences in Philadelphia

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Abstract

Abstract: There is no available data on the secretion and concentration of ketamine and its metabolites in breastmilk. There are statements in the literature made as to the safety of the use of ketamine in lactating women, though these are unsupported. This information is pertinent for the treatment of breastfeeding women who may have depression, PTSD, postpartum depression, and other emotional difficulties and would benefit from ketamine treatment. The objective of this study was to measure the presence and concentration of ketamine in breastmilk and three of its metabolites. We have provided a longitudinal pharmacokinetic analysis of the presence of ketamine and several of its major metabolites (norketamne, dehydronorketamine and hydronorketamine) in 4 women receiving 2 different intramuscular doses of ketamine—0.5mg/kg and 1.0mg/kg. Our results demonstrate the insignificance of ketamine's presence In breast milk after a 12-hour period of suspension. Given ketamine's proven record of effectiveness for the treatment of depression, and its intermittent use for this purpose, our data support the safety of its administration for the treatment of postpartum depression (PPD)and other emotional disorders during a woman's chosen period to provide breast milk to her child without significant interruption or exposure. This provides the necessary data for the study of ketamine assisted psychotherapy as a potential treatment of postpartum emotional disorders without the loss of the relationship between mother and child which breast feeding so vitally provides. We review conventional pharmacologic treatments involved in the treatment of PPD.

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