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Side Effects from Chronic Methadone Use in Opioid Addiction: A Scoping Review on Hematological Derangements

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Abstract

Background: Per oral methadone maintenance therapy [MMT] was introduced as part of harm reduction strategy to manage rising numbers of HIV infections caused by intravenous use of illicit drugs.

Method: We aim to review published articles related to the side effects of long-term methadone therapy, focusing on hematological derangements in human studies published between 1 January 2000 till 31 January 2021.

Results: Our search databases include Web of Science, Scopus, and Medline. Our search yielded 971 articles, of which 55 articles relates to the effects of MMT on various organ systems: cardiovascular [n=12], respiratory [n=1], endocrine [n=10], central nervous system [n=12], neurobehavioral [n=10], gastrointestinal [n=1], bone [n=1]. There were eight articles specifically related to the hematological side effects of chronic methadone therapy that includes [i] immune system hyperactivation, [ii] reduced circulating lymphocytes, and an [iii] increased in blood viscosity.

Conclusion: In view of all foreseeable health risks seen with prolonged methadone therapy, pharmacological modulation is warranted to find a better substitute in managing patients with opioid dependence.

Keywords: harm reduction; illicit drugs; immune system; methadone; opiate substitution treatment.

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