To whom so ever it may concern

This is to certify that the manuscript entitled "**Recent trends in Stem cell-based therapies and applications of artificial intelligence in regenerative medicine"** is thoroughly checked using commercial version of 'Grammarly' for any grammatical or typographical error.

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Abstract

Stem cells are undifferentiated cells that can self-renew and differentiate into diverse types of mature and functional cells while maintaining their original identity. This profound potential of stem cells has been thoroughly investigated for its significance in regenerative medicine and has laid the foundation of cell-based therapies. Regenerative medicine is rapidly progressing in healthcare with the prospect of repair and restoration of specific organs or tissue injuries or chronic disease conditions where the body's regenerative process is not sufficient to heal. In this review, the recent advances in stem cell-based therapies in regenerative medicine are discussed, emphasizing mesenchymal stem cell-based therapies as these cells have been extensively studied for clinical use. Recent applications of artificial intelligence algorithms in stem cell-based therapies, their limitation, and future prospects are highlighted.

Keywords: Artificial Intelligence, Mesenchymal stem cell, Regenerative medicines, Stem cells, Therapy

Core Tip: This article reviews some important types of stem cells in clinical treatment, including embryonic stem cells, induced pluripotent stem cells, induced tissue-specific stem cells, and adult stem cells. Further, the article focuses on the clinical treatment of mesenchymal