Does the mechano-biomodulation vibration lead to biological responses on human beings?

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Mechanical vibration (MV) is generated by organs (ie, heart and digestive system), or is transmitted to the body due to daily activities (ie, walking and running, and by external factors (ie, mobile vehicles or vibrating platforms). In addition to cutaneous mechanoreceptors, the body has also internal mechanosensors. Mechanotransduction is related to a response that occurs when the MV interacts with mechanoreceptors. Besides the mechanoreceptors that are found in the skin; Piezo1 and Piezo2 are mechanosensitive ion channels (MSCs) in internal tissues of mammals. In consequence this mechanotransduction, the mechanobiotransduction, induces the generation of several signaling hormonal and non-hormonal molecules that are responsible for physiological effects at cellular and metabolic levels. Accordingly, responses occur in the body, including proprioception, effects on bone mineral density and on metabolism, endocrine and immune systems, muscle and vital functions, balance, and functionality due to the mechanobiomodulation. The current narrative review aimed to introduce a novelty concept, mechanobiomodulation, based on information related to vibratory therapy. Putting together all the findings related to the biological responses to MV, mechanobiomodulation could aid to explain the mechanisms that underline the biological responses to the MV.