

## Use of subtle vibrations to predict future organ dysfunction

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Madam, over the years, the application of quantum physics in medicine has led to a greater understanding of the cellular processes within the human body. A dimension of quantum physics is vibration medicine. There is no distinction between energy and matter in quantum physics, and all molecules are constantly in motion, creating resonance. This resonance is critical to comprehending how subtle energy guides and maintains human health and fitness.<sup>1</sup>

Subtle energies form the core of examination of the physiological and anatomical maps we examine in modern medicine. Evidence-based literature is present that depicts the relationship between subtle energies, mind-body connections, and electromagnetic waves.<sup>2</sup> Every cell in the body resonates and every part of the body has its sonic signature i.e. the sound of the cells of the heart is different from that of the cells of the lungs. It's also seen those different forms of cell illnesses that affect humans have a unique frequency spectrum.<sup>3</sup> Subtle energy can be used to detect changes in the resonance of cells of the diseased organs and predict future organ dysfunction in patients with chronic diseases e.g. diabetes, and hypertension. In Pakistan, this diagnostic modality isn't currently used, but it holds the potential to maximize preventative care and lessen the burden on its healthcare system.

Hydrogels are cross-linked hydrophilic polymers similar to the extracellular matrix and adhere firmly to tissues.<sup>4</sup> The use of hydrogels in bio-medicine is of great interest.<sup>5</sup> However, there is insufficient literature that depicts the use of hydrogels in predicting future organ dysfunction. Zwitterionic Polydopamine-clay-poly [2-(methacryloyloxy) ethyl] dimethyl-(3-sulfopropyl) ammonium hydroxide

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(PDA-clay-PSMBA), a novel hydrogel, can be potentially used to predict future organ dysfunction. The novel hydrogel can adhere to a variety of body tissues with the strength of 19.4 KPa (in the heart). It retains firm adhesion on wet and underwater tissues and the adhesion is stable with heart beating and lung breathing. The hydrogel sensors monitor the dynamic vibrations of the organs, sending electrical impulses to the computer through wireless transmission. Excellent electrical conductivity, sensitivity, and robust adhesion allow it to detect subtle vibrations in the tissues. Moreover, the novel hydrogel is highly stretchable, self-healing, and bio-compatible.<sup>4</sup> Therefore, it holds considerable promise in detecting subtle vibrations which can then be used to predict future organ damage.

More studies are needed to inspire vibratory medicine towards yielding results of possible organ dysfunctions by quantifying subtle vibrations.

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