

Gas Detection System for Dry and Wet Cupping Process



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Abstract Cupping therapy is an alternative medical approach that adopts the suction mechanism of cups to withdraw blood towards the surface of the skin. The therapy is hereby differentiated between dry cupping therapy (DCT) and wet cupping therapy (WCT). While both techniques involve releasing gas from the human body, the former merely undertakes suction, with the latter deliberately includes the process of medicinal bleeding. Upon execution of the cupping process, the released gas can potentially affect involved practitioners in form of diseases. Seeing limited studies conducted within the area of actual gas release detection, mentioned issue, thus, demonstrates value in the study of the gas detection system in dry and wet cupping practices. Hence, the current paper set out to develop a gas detection system that investigates and measures the gas existed release in dry and wet cupping practices. To satisfy this objective, the system used several general sensors comprising a natural gas sensor, carbon monoxide gas sensor, hydrogen gas sensor, and LPG gas sensor to investigate the pattern of type gas occurred. Several experiments were further operationalized on both dry and wet cupping therapies under several conditions and time frames to analyze the contents of the released gas. The operated comparison then uncovered the robustness of the gas detection systems in identifying the gas compositions based on sensor detection for both DCT and WCT processes.

Keywords Cupping therapy · Gas · Wet cupping · Dry cupping

1 Introduction

Cupping, also known as Oxidant-Drainage (OD), Bekam, and Pa Hou Kuan, is a traditional healing technique that uses heat or suction within a cup to generate a sub-atmospheric pressure on designated points on the human's skin [1, 5]. Being

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