



AUGMENTED REALITY (AR) FOR MARMA POINT SCANNING AND WEARABLE THERAPEUTIC PATCHES: A CONCEPTUAL STUDY

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ABSTRACT

This paper presents a conceptual framework for integrating Augmented Reality (AR) technology with Ayurvedic marma point therapy using wearable patches. The proposed system enhances accuracy in identifying marma points, provides real-time guidance for therapeutic interventions, and supports a personalized approach to traditional medicine. Marma points are classified according to Angula Parman, facilitating precise localization. AR visualization allows practitioners and students to explore marma locations interactively, while algorithm-driven guidance ensures correct patch placement and treatment protocols. This innovative approach combines traditional knowledge with modern technology, promoting integrative healthcare, education, and practitioner skill development.

KEYWORDS: Augmented Reality, Ayurveda, Marma Points, Angula Parman, Wearable Patches, Algorithm, Integrative Medicine

1. INTRODUCTION

Ayurveda, an ancient Indian medical system, emphasizes marma points, vital energy centers that influence physical and mental health. Traditional identification of marma points relies on expert knowledge and anatomical landmarks, which may vary between practitioners.

Angula Parman classification measures marma size in finger-width units (angulas), providing standardized guidance for location and treatment.

Recent technological advancements, such as AR and wearable devices, offer opportunities to enhance accuracy, visualization, monitoring, and education in therapeutic practices. Integrating AR with wearable patches may facilitate a modernized approach to marma therapy, making it accessible, precise, and interactive.

2. OBJECTIVES

1. To conceptualize an AR-based system for accurate marma point identification using Angula Parman.
2. To design wearable patches for therapeutic stimulation of marma points.
3. To develop algorithm-driven guidance for correct patch placement and treatment duration.
4. To explore educational and practitioner benefits through interactive visualization and training.

3. METHODOLOGY (CONCEPTUAL FRAMEWORK)

Step 1: AR Marma Visualization

- Using 3D human models, AR overlays marma points on a live or virtual body.
- Marma points are identified according to Angula Parman, standardizing location and size.
- Algorithms calculate the optimal placement of patches based on patient anatomy and marma classification.

Step 2: Wearable Patch Application

- Wearable patches with micro-stimulators are applied on identified marma points.
- Patches deliver gentle stimulation (vibratory or electrical) to enhance therapeutic outcomes.

Step 3: Feedback and Monitoring

- AR interface provides real-time feedback on patch placement and treatment duration.
- Data is logged for reference, enabling personalized therapy adjustments.

Step 4: Integration with Ayurveda Principles

- The system aligns with Ayurvedic marma guidelines, ensuring stimulation matches traditional dosha balancing practices.

Step 5: Algorithm Use

- Algorithms guide optimal patch placement, stimulation timing, and intensity.
- Decision-support ensures accuracy, reproducibility, and safety, making the system useful for both novice students and

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experienced practitioners.

4. BENEFITS / POTENTIAL APPLICATIONS

Educational Benefits:

1. Interactive AR visualizations enhance learning of marma locations for students.
2. Algorithm-guided simulations allow practice without risk, accelerating skill acquisition.

Practitioner Benefits:

1. Reduces errors in marma identification.
2. Supports personalized treatment planning.
3. Provides quantitative feedback for treatment effectiveness.

General Benefits:

1. Enhanced accuracy in marma therapy.
2. Non-invasive therapy with wearable patches.
3. Bridges traditional knowledge and modern technology.
4. Promotes integrative healthcare approaches.

5. DISCUSSION

The AR and wearable patch system provides a modern solution for ancient marma therapy. By integrating Angula Parman classification and algorithmic guidance, the system enhances precision, reproducibility, and training effectiveness.

Challenges include AR mapping accuracy, patient anatomical variability, and practitioner adoption, which can be mitigated through iterative testing and validation.

6. CONCLUSION

Integrating AR visualization, Angula Parman classification, wearable patches, and algorithms represents a novel approach in integrative medicine. This conceptual framework enhances therapeutic precision, practitioner training, and educational outcomes, bridging ancient Ayurvedic wisdom with modern technology.

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