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Significance of *Manikkadai Nool* in the diagnosis of *Uthira Vaatha Suronitham* (Rheumatoid Arthritis) - A Cross Sectional Study

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Abstract

Background: *Manikkadai Nool* is a unique diagnostic method in *Siddha* medicine that assesses wrist circumference in finger breadth units to identify disease conditions and predict clinical manifestations. Although it has been evaluated in various disorders, its role in *Uthira Vaatha Suronitham* (Rheumatoid Arthritis) has not been adequately studied.

Objective: To determine the *Manikkadai Nool* values among patients with *Uthira Vaatha Suronitham* (Rheumatoid Arthritis).

Methods: A hospital-based cross-sectional study was conducted over one year at Arignar Anna Government Hospital of Indian Medicine, Chennai. A total of 100 patients aged 18–65 years with clinical features suggestive of rheumatoid arthritis were enrolled. Patients with other forms of arthritis, autoimmune diseases, or serious systemic illnesses were excluded. *Manikkadai Nool* assessment was performed using the standard anthropometric procedure with a non-elastic cotton thread, and the wrist circumference was recorded in finger breadth units.

Results: The *Manikkadai Nool* values ranged from 8 to 10 finger breadths. The most common measurement in the right wrist was 9 ½ finger breadths (35%), followed by 9 finger breadths (15%). Similarly, in the left wrist, 9 ½ finger breadths were observed in 29% of participants, followed by 9 finger breadths in 21%. The predominant value of 9 ½ finger breadths corresponded with the clinical features of Uthira Vaatha Suronitham described in *Siddha* literature.

Conclusion: The study identified 9½ finger breadths as the predominant *Manikkadai Nool* value among patients with *Uthira Vaatha Suronitham*. These findings support the usefulness of *Manikkadai Nool* as a simple, economical, non-invasive and reliable *Siddha* diagnostic tool. Further multicentre studies with larger sample sizes are recommended to validate its clinical significance.

Keywords: *Siddha* medicine, *Manikkadai Nool*, *Uthira Vaatha Suronitham*, Rheumatoid Arthritis, Wrist circumference, Diagnostic method.

Introduction

The *Siddha* system of medicine is one of the oldest traditional healthcare systems, originating in South India. It emphasizes disease prevention and the maintenance of health rather than treating illnesses. Among its distinctive diagnostic techniques, *Manikkadai Nool* is a unique assessment method used exclusively in Siddha medicine. This method involves determining the number of finger breadths corresponding to the circumference of the forearm (ante brachial circumference) to identify disease conditions, clinical symptoms and possible pathological changes. It serves as a simple, rapid, non-invasive and cost-effective diagnostic tool that aids in disease identification and helps predict the predominance of specific disorders. According to *Pathinen Siddhar Naadi Nool*, *Manikkadai Nool* consists of 26 reference values ranging from 4 to 11 finger breadths.[1] During the assessment, the combined mediolateral width of the four fingers is first measured using a non-elastic thread. This measured length is then marked repeatedly from the wrist crease towards the forearm to determine the point at which the ante brachial circumference is measured using the same thread. The circumference obtained is subsequently expressed as finger breadth units, and each corresponding value is associated with specific clinical features described in *Siddha* literature, thereby assisting in the diagnostic process.[2] Rheumatoid arthritis (RA) is a chronic systemic autoimmune disorder characterized by persistent inflammation that primarily affects the synovial joints, leading to pain, swelling, stiffness and progressive joint damage.[3] According to the Global Burden of Diseases study 2021, the age standardized global prevalence rate was 208.8 cases per 1,00,000 population. The disease is more prevalent among women, who are affected approximately 2.5 times more frequently than men, and its occurrence increases with advancing age.[4] Indian prevalence of Rheumatoid Arthritis is around 0.75%.[5] Symptoms of *Uthira Vaatha Suronitham* are correlated with that of Rheumatoid Arthritis symptoms.[6] This study would provide the different wrist circumferences of the *Uthira Vaatha Suronitham* (Rheumatoid Arthritis) patients, by which it may helpful in diagnosis. The aim of the study was to determine the value of *Manikkadai Nool* among *Uthira Vaatha Suronitham* patients.

Objective

To determine the Manikkadi Nool value for *Uthira Vaatha Suronitham* patients.

Methodology

The present study was conducted as a cross-sectional study over duration of one year at Arignar Anna Government Hospital of Indian Medicine, Chennai. A total of 100 patients were enrolled in the study. Participants aged between 18 and 65 years, irrespective of gender, who presented with clinical features suggestive of rheumatoid arthritis such as morning stiffness lasts for more than 1 hour, arthritis involves 3 or more minor joints, pain and swelling especially in interphalangeal joints were included. Patients with any other arthritis, any other autoimmune diseases and any other serious systemic illness were excluded from the study.*Manikkadai Nool* assessment was performed for all eligible participants, and the findings were documented for analysis. The procedure was carried out according to the standard operating procedure based on anthropometric measurement of the wrist circumference.

A non-elastic cotton thread was wrapped around the wrist, four finger breadths below the corresponding hand. The thread was then removed and placed longitudinally over the dorsal aspect of the middle of the four fingers to determine the measurement in finger units. Each finger was divided into four equal parts (¼, ½, ¾, and 1 unit), allowing precise calculation of the wrist circumference. The measured value was recorded in finger units and interpreted according to the principles of *Manikkadai Nool* for disease diagnosis.

Procedure

Step 1

Step 2

Step 3

Step 4

Results

Among the study participants, 9½ finger breadths was the predominant right-sided Manikkadai Nool measurement (35%), followed by 9 finger breadths (15%). Similarly, the predominant Manikkadai Nool measurement in left wrist was 9½ finger breadths (29%), followed by 9 finger breadths (21%).

Table 1: Distribution of *Manikkadai Nool* Right

Manikkadai Nool Measurements	Frequency	Percentage
8	4	4.0
8 ¼	2	2.0
8 ½	12	12.0
8 ¾	9	9.0
9	15	15.0
9 ¼	11	11.0
9 ½	35	35.0
9 ¾	7	7.0
10	5	5.0
Total	100	100.0

Table 2: Distribution of *Manikkadai Nool* Left

Manikkadai Nool Measurements	Frequency	Percentage
8	5	5.0
8 ¼	3	3.0
8 ½	12	12.0
8 ¾	6	6.0
9	21	21.0
9 ¼	12	12.0
9 ½	29	29.0
9 ¾	9	9.0
10	3	3.0
Total	100	100.0

Discussion

Manikkadai Nool measurement, which is based on wrist circumference, is one of the traditional diagnostic methods employed in *Siddha* medicine. According to *Siddha* literature, disease manifestations are interpreted based on wrist circumference measured in finger breadth (FB) units, with values ranging from 11 to 4 FB. A reduction in the finger breadth value is considered indicative of a poorer prognosis.[1]

The present study was conducted among 100 patients diagnosed with *Uthira Vaatha Suronitham* (Rheumatoid Arthritis) who fulfilled the inclusion criteria and provided informed consent. The *Manikkadai Nool* values observed in the study ranged from 8 to 10 FB. Among the study participants, 35 patients (35%) had a *Manikkadai Nool* value of 9 ½ FB in the right hand, while 29 patients (29 %) exhibited the same value in the left hand. The symptoms mentioned in *Siddha* literature for 9 ½ FB measurement is correlated with *Uthira Vaatha Suronitham* patients. This suggests that the symptoms mentioned in the classical texts were observed as associated manifestations among patients with *Uthira Vaatha Suronitham*.

A study conducted by G. Ramanan in 2023 on the role of Manikkadai Nool in the diagnosis of *Madhumegam* (Diabetes Mellitus) reported that 70% of the participants had *Manikkadai Nool* values ranging between 9¾ and 9¼ FB.[7] Another study by Poonguzhali Elanchezhian in 2024 among patients with *Brahmiyam Noi* (Leucorrhoea) found that 68% had a *Manikkadai Nool* value of 8¼ FB, which is in accordance with *Siddha* literature.[8] In another cross-sectional study conducted by the same author in 2024 on *Soodhagavaayu* (PCOS), the *Manikkadai Nool* values showed a significant association with the

corresponding clinical features described in *Siddha* texts.[9] Likewise, in the present study, 35% of patients with *Uthira Vaatha Suronitham* demonstrated a correlation between their *Manikkadai Nool* finger breadth value and the associated symptoms described in *Siddha* literature, thereby emphasizing the diagnostic significance of *Manikkadai Nool*.

Conclusion

The present study identified 9 ½ finger breadths as the predominant *Manikkadai Nool* measurement among patients with *Uthira Vaatha Suronitham*. The findings support the significance of *Manikkadai Nool* as a simple, economical, and non-invasive *Siddha* diagnostic method. Further multicentre studies with larger sample sizes are recommended to strengthen its clinical applicability.

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