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A Case Series on Assessment of Effectiveness of *Padai Sankaaran* (External) in the Treatment of *Padarthamarai* (Tinea Corporis) among Patients, Attending OPD, Government Siddha Medical College and Hospital, Palayamkottai

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ABSTARCT

Tinea corporis is a common superficial dermatophyte infection affecting a substantial proportion of the global population, particularly in tropical regions such as India. In Siddha medicine, this condition is correlated with *Padarthamarai*. The present study aimed to evaluate the clinical efficacy of *Padai Sankaaran* as an external therapeutic agent in the management of Tinea corporis. A descriptive case series study was conducted among 20 patients diagnosed with Tinea corporis at the Government Siddha Medical College Hospital, Palayamkottai. The selected patients were treated with *Padai Sankaaran* paste, prepared by mixing the powdered formulation with lemon juice, and applied externally over the affected area for a duration of 30 days. Clinical outcomes were assessed using the Lesion Severity Score (LSS), which included parameters such as scaling, pruritus, erythema, and margin continuity, each graded on a four-point Likert scale. Statistical analysis was performed using paired t-test to compare pre- and post-treatment values. The results demonstrated a significant reduction in all LSS parameters following treatment. The mean scaling score decreased from 1.30 to 0.40, pruritus from 2.65 to 0.70, erythema from 1.85 to 0.65, and margin continuity from 1.65 to 0.65, with p-values less than 0.05 indicating statistical significance. The findings suggest that *Padai Sankaaran* exhibits notable antifungal and therapeutic effects in the management of Tinea corporis. Thus, it can be considered an effective and promising external Siddha formulation for improving clinical outcomes in patients with dermatophytosis.

Keywords: Tinea corporis, Padarthamarai, Siddha medicine, Padai Sankaaran, dermatophytosis, herbal therapy, LSS

1.INTRODUCTION

Superficial fungal infections, particularly dermatophytosis such as tinea corporis, represent a pressing global health issue that affects millions and strains healthcare systems worldwide. It is estimated that approximately 20–25% of the world's population is affected at any given time, accounting for nearly 650 million cases worldwide. This staggering figure

underscores the pervasive nature of these infections, with a substantial proportion comprising ringworm infections—annular lesions caused by dermatophytes—thus emphasizing the widespread impact of dermatophyte infections on public health across diverse populations and geographies. In India, the burden of dermatophytosis is especially pronounced, with reported rates ranging from 36.6% to 78.4% across different regions, reflecting significant regional disparities. This variation stems from a complex interplay of multiple factors, including hot and humid climatic conditions that favour fungal growth, suboptimal personal hygiene practices in crowded settings, socioeconomic status that limits preventive measures, and uneven accessibility to healthcare services, particularly in rural areas. Among the various clinical forms of dermatophytosis, tinea corporis emerges as the most commonly reported subtype, contributing to approximately 32–71% of cases in several large-scale and multicentric studies conducted over recent decades. Regional data from Tamil Nadu and other parts of South India similarly indicate a predominance of tinea corporis, aligning with patterns observed elsewhere in the country. Studies conducted in the Chennai region have specifically identified it as the leading dermatophyte infection, with a marginally higher prevalence among males (M:F ratio ≈ 1.05:1), possibly linked to occupational exposures or behavioural differences.

A comprehensive review encompassing nearly 25,000 Indian patients between 1939 and 2021 provides robust epidemiological insight, revealing a higher occurrence in adult males (57.2%) compared to females (29.9%), resulting in an overall male-to-female ratio of approximately 1.91:1. This gender disparity may be attributed to factors like greater outdoor activity among males, shared living conditions, and diagnostic biases in reporting. The infection is particularly common in young adults, especially those aged 21–30 years, a demographic often engaged in labour-intensive work under tropical conditions that exacerbate fungal proliferation. Dermatophytosis is fundamentally a superficial fungal infection that targets the stratum corneum of the skin—the outermost protective layer—and is caused by species belonging to the genera Trichophyton, Microsporum, and Epidermophyton, which thrive in keratin-rich environments. In the Indian context, tinea corporis accounts for about 34% of cases, followed closely by tinea cruris (19.7%), tinea unguium (17.9%), tinea capitis (13.3%), tinea pedis (4.1%), tinea manuum (1.9%), tinea faciei (1.9%), and tinea barbae (0.7%). These proportions highlight the diversity of clinical presentations and the need for tailored therapeutic approaches. Clinically, tinea corporis presents as one or multiple annular, scaly lesions with well-defined erythematous margins and central clearing, creating the characteristic "ringworm" appearance. These lesions commonly appear on the trunk and extremities, though they can spread to other areas under favourable conditions. The condition affects individuals of all age groups but is more frequently observed in males and young adults, often triggered by environmental exposures, minor skin trauma, or immunosuppression.

From the perspective of the Siddha system of medicine—an ancient Tamil traditional healing tradition—tinea corporis can be correlated with “PADARTHAMARAI,” a condition described in classical Siddha texts under Sirappu Maruthuvam. Siddha medicine attributes skin diseases primarily to an imbalance in the three fundamental humors Vatham, Pitham, Kabam with a predominant role of Vatha derangement in such conditions, leading to dryness, scaling, and irritation. Traditional Siddha therapies emphasize restoring this humoral balance through polyherbal formulations, dietary modifications, and lifestyle interventions, and they have been reported to be effective in managing dermatological disorders,

including antifungal and anti-inflammatory actions validated in preliminary studies. Siddha formulations, including medicines like Padai Sangaran, may offer a valuable therapeutic alternative with potentially fewer side effects and holistic benefits.

2. METHODS AND MATERIALS

Tab 2.1 Padai Sankaaran Ingredients

COMPONENTS OF PADAI SANKAARAN	
Azinjil verpattai	*Alangium salvifolium*
Marukkaarai ver	*Catunaregum spinosa*
Marukkaarai viththu	*Catunaregum spinosa*
Elumitchai saaru	*Citrus limon*

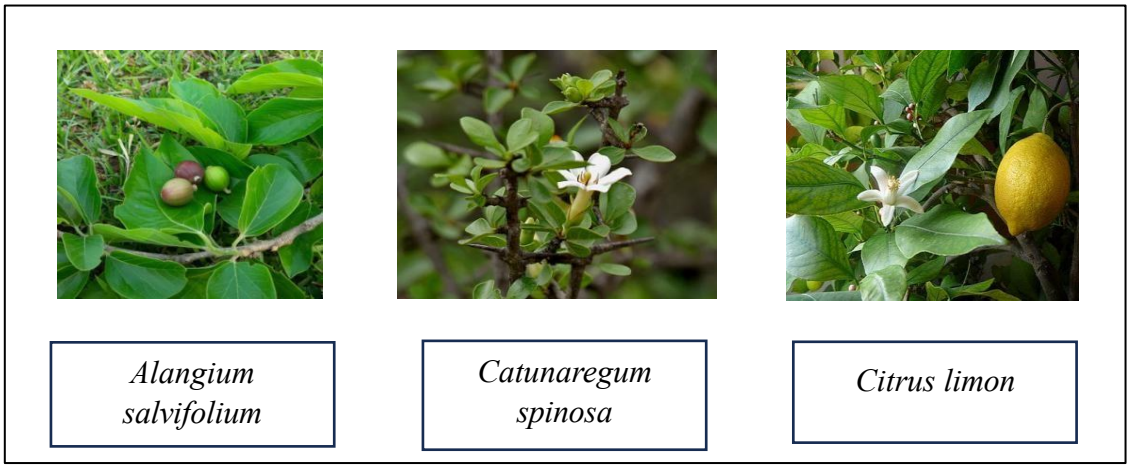


FIG 2.1 Padai Sankaaran components

DRUG AND STUDY PROFILE:

BOOK REFERENCE	**Siddha Vaidhya Thirattu**
AUTHOR	Dr.R.K.N.Kuppusami Muthaliyar, Dr.K.S.Uthamarayan
YEAR OF PUBLICATION	7th Edition 2018
PAGE NO	428
MEDICINE	Padai Sankaaran
USAGE	External (Powder was mixed with lemon juice to form a paste)
INDICATION	Padai (Padarthamarai)
STUDY TYPE	DESCRIPTIVE STUDY - CASE SERIES
STUDY PLACE	GSMC- PALAYAMKOTTAI
STUDY PERIOD	4 MONTHS
SAMPLE SIZE	20 OPD
INCLUSION CRITERIA	➢ Patients aged above 20 years ➢ Both male and female participants ➢ Patients presenting with classical clinical features of *tinea corporis*, characterized by single or multiple scaly annular lesions with slightly elevated erythematous margins and central clearing over the body
EXCLUSION CRITERIA	➢ Pregnant and lactating women ➢ Patients with other types of dermatophytosis (e.g., *tinea capitis*, *tinea unguium*) without involvement of *tinea corporis* ➢ Patients with secondary bacterial infection over the lesion ➢ Individuals with chronic systemic illnesses such as uncontrolled diabetes mellitus, immunocompromised states (e.g., HIV/AIDS), or other severe medical conditions

	➢ Patients with known hypersensitivity to study medications ➢ Patients with other coexisting dermatological conditions that may mimic or interfere with diagnosis (e.g., psoriasis, eczema)
WITHDRAWAL CRITERIA	➢ Intolerance to the study drug or occurrence of adverse reactions ➢ Participant unwillingness to continue during the trial ➢ Development of any acute illness requiring rescue medication
CLINICAL ASSESSMENT	LESION SEVERITY SCORE (The LSS was assessed based on key clinical parameters, including scaling, pruritus, erythema, and margin continuity. Each of these symptoms was evaluated using a 4-point Likert scale ranging from 0 to 3, where a score of 0 indicated absence of the symptom, 1 represented mild severity, 2 indicated moderate severity, and 3 denoted severe manifestation)
DATA ANALYSIS	CODED IN MS- EXCEL AND ANALYSED ON SPSS 21

3.RESULT AND DISCUSSION

3.1 DEMOGRAPHIC DATA:

3.1.1 AGE DISTRIBUTION:

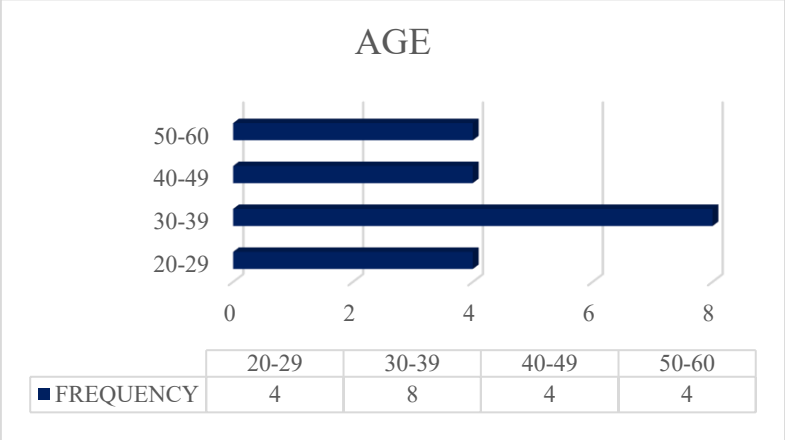


Fig 3.1 Age of patients

3.1.2 GENDER:

Out of the 20 patients included in the study, 10 were male and 10 were female.

3.2 SCALE ASSESSMENT (LESION SEVERITY SCALE):

3.2.1 SCALING:

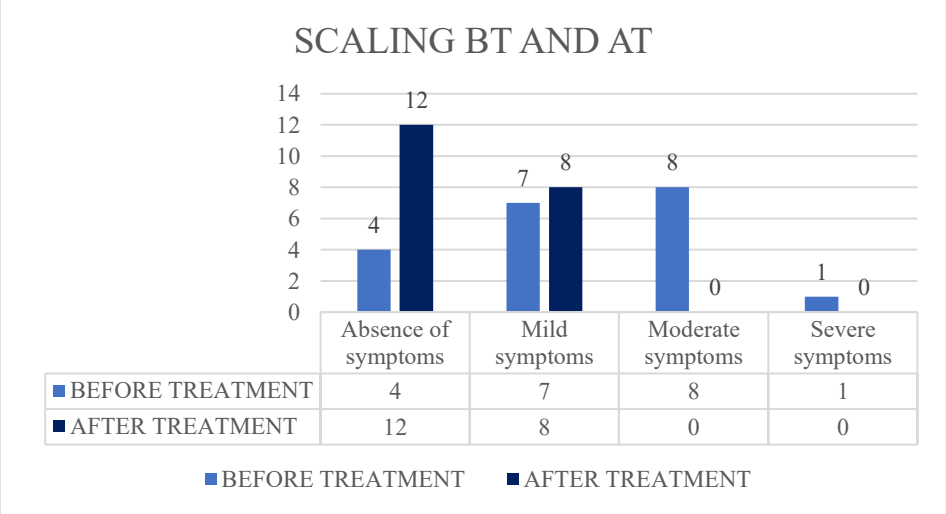
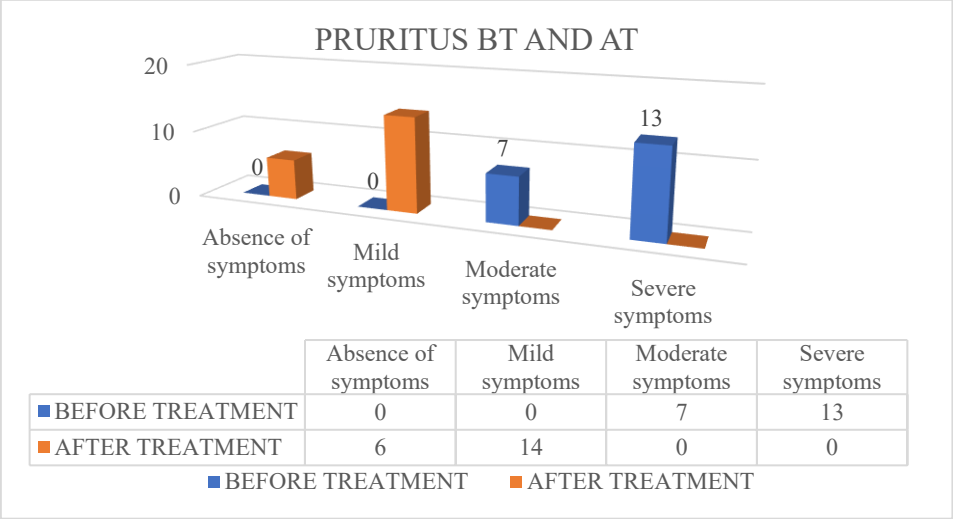


Fig 3.2 Scaling BT and AT

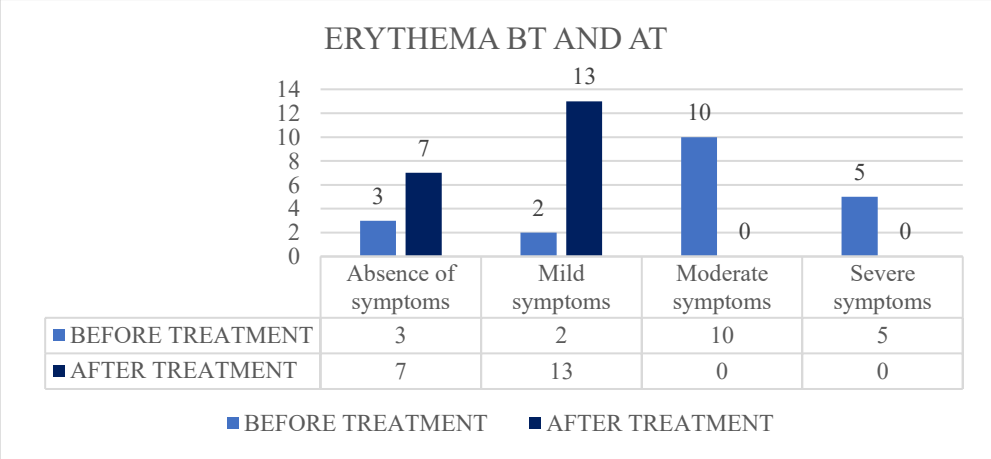
3.2.2 PRURITUS:



	Absence of symptoms	Mild symptoms	Moderate symptoms	Severe symptoms
BEFORE TREATMENT	0	0	7	13
AFTER TREATMENT	6	14	0	0

Fig 3.3 Pruritus BT and AT

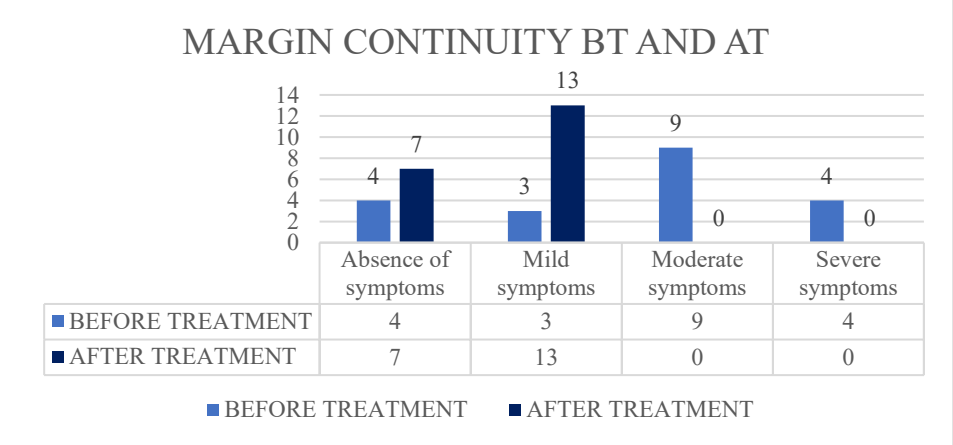
3.2.3 ERYTHEMA:



	Absence of symptoms	Mild symptoms	Moderate symptoms	Severe symptoms
BEFORE TREATMENT	3	2	10	5
AFTER TREATMENT	7	13	0	0

Fig 3.4 Erythema BT and AT

3.2.4 MARGIN CONTINUITY:



	Absence of symptoms	Mild symptoms	Moderate symptoms	Severe symptoms
BEFORE TREATMENT	4	3	9	4
AFTER TREATMENT	7	13	0	0

Fig 3.5 Margin continuity BT and AT

The mean differences in scaling, pruritus, erythema, and margin continuity before and after treatment are presented in Table 3.1. The mean scaling score decreased from 1.30 before treatment to 0.40 after treatment. Similarly, the mean pruritus score showed a substantial reduction from 2.65 to 0.70 following treatment with the trial drug (*Padai Sankaaran*), indicating a marked improvement. The mean erythema score declined from 1.85 to 0.65, while the mean margin continuity score decreased from 1.65 to 0.65 after intervention.

Tab 3.1

LSS SCALE	MEAN ± STANDARD DEVIATION	
	Before Treatment	After Treatment
SCALING	1.30 ± 0.865	**0.40 ± 0.503**
PRURITIS	2.65 ± 0.489	**0.70 ± 0.470**
ERYTHEMA	1.85 ± 0.988	**0.65 ± 0.489**
MARGIN CONTINUITY	**1.65 ± 1.040**	**0.65 ± 0.489**

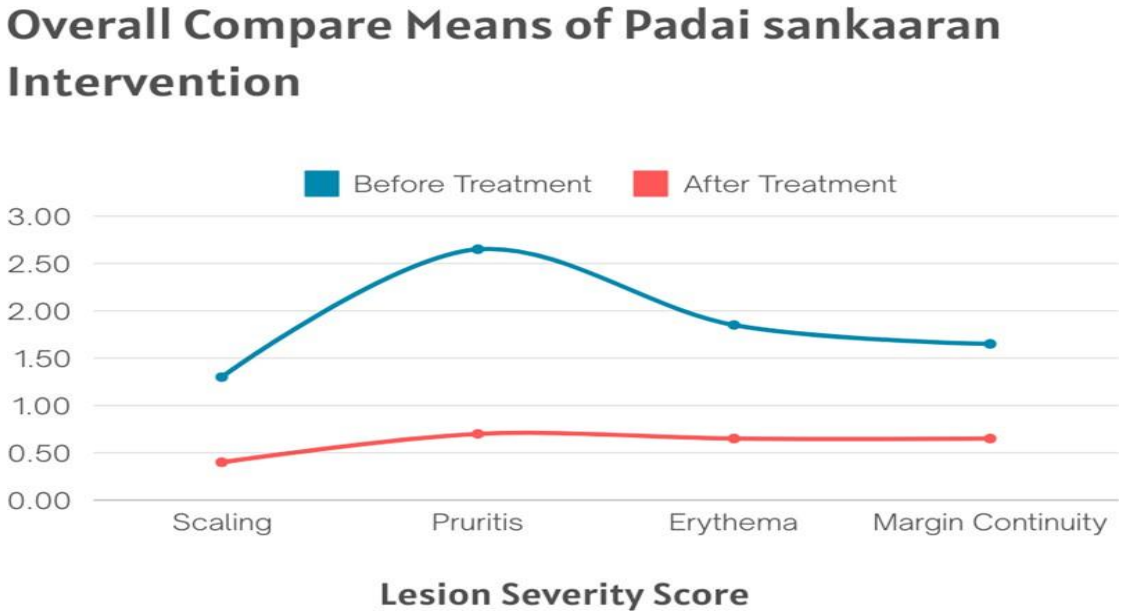


Fig 3.6 Overall mean comparison

To assess the statistical significance of differences between pre-treatment and post-treatment values, a **paired *t*-test** was applied. The results of this analysis are presented in 3.2

Tab 3.2

VARIABLE 1	VARIABLE 2	t value	Sig 2 tailed p value	Significance
Scaling BT	Scaling AT	6.282	.000	**HS***
Pruritus BT	Pruritus AT	22.132	.000	**HS***
Erythema BT	Erythema AT	6.439	.000	**HS***
Margin Continuity BT	**Margin Continuity AT**	**5.627**	**.000**	**HS***

Tinea corporis is a superficial dermatophyte infection affecting the glabrous skin and is widely distributed across the globe, with higher prevalence in hot and humid climates. It is commonly observed in children and young adults, contributing significantly to the burden of superficial fungal infections. Despite the availability of various internal antifungal therapies, recurrence and delayed response remain challenges, thereby emphasizing the need for effective external therapeutic agents. In the present case series, a Siddha herbal formulation, *Padai Sankaaran*, was evaluated for its efficacy in

the management of *tinea corporis*. External application was preferred in this study due to its direct action on the affected site, which may facilitate faster symptomatic relief and recovery. The ingredients of the formulation possess documented pharmacological properties: *Alangium salvifolium* (Azinjil verpattai) exhibits antifungal and antioxidant activities, *Catunaregum spinosa* (Marukaarai) demonstrates antimicrobial and antibacterial effects, and *Citrus limon* (Elumichai) is known for its antifungal and antibacterial properties. These combined actions may contribute synergistically to the therapeutic efficacy observed.

A total of 20 patients diagnosed with *tinea corporis* were treated with *Padai Sankaaran* for a duration of 30 consecutive days. Clinical assessment was performed at each visit using a structured proforma, and disease severity was evaluated using the Lesion Severity Score (LSS), which included parameters such as scaling, pruritus, erythema, and margin continuity.

The findings of the study demonstrated a notable reduction in all clinical parameters. The mean scaling score decreased from 1.30 to 0.40, pruritus from 2.65 to 0.70, erythema from 1.85 to 0.65, and margin continuity from 1.65 to 0.65 following treatment. Statistical analysis using paired sample *t*-test revealed a *p*-value of less than 0.05, indicating that the observed improvements were statistically significant. In addition to statistical significance, a clear clinical reduction in symptoms was also observed, reflecting meaningful therapeutic benefit. These results suggest that *Padai Sankaaran* as an external application may be effective in reducing the severity of *tinea corporis*. The improvement in LSS scores highlights its potential role as a safe and beneficial topical treatment option. Overall, the present case series indicates that *Padai Sankaaran* may serve as a promising Siddha external formulation in the management of *tinea corporis*, demonstrating both clinical and statistical improvement.

4. CONCLUSION

The present case series demonstrates that *Padai Sankaaran*, a Siddha external herbal formulation, is effective in the management of *tinea corporis*. Significant reductions were observed in all components of the Lesion Severity Score (scaling, pruritus, erythema, and margin continuity) after 30 days of treatment, supported by statistical significance ($p < 0.05$). The direct topical application of the formulation, along with the known antifungal and antimicrobial properties of its ingredients, may have contributed to the observed clinical improvement.

Limitation

Since this is a case series with a minimum number of 20 samples, generalizing this study result is not possible. Even though it is evident from the case series that our trial drug can be potentially used against the Tinea corporis, the clinical efficacy among difference population, age group still needs to be evaluated. This preliminary data can be used as the baseline and up scaled by performing randomized double blinded controlled trial in large sample size.

Declaration by Authors
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Source of Funding: None
Conflict of Interest: No conflicts of interest declared.

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