



Research Article

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AN ASSESSMENT OF PREVALENCE AND QUALITY OF LIFE IN *KAALANJAGA VAATHAM* (PSORIATIC ARTHRITIS) PATIENTS AFTER TAKING SIDDHA TREATMENT: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Psoriatic arthritis is a chronic multi-organ inflammatory disease which impacts both physically and psychologically. The symptoms of *Kaalanjaga vaatham* mentioned in Siddha text *Yugi vaiithiya chinthamani* are closely related to Psoriatic arthritis. In Ayothidoss Pandithar Hospital, National Institute of Siddha, *kaalanjagapadai* is one of the most commonly reported diseases. Psoriatic arthritis patients have impaired health-related –the quality of life. Therefore, this cross-sectional study was conducted to determine the prevalence of *Kaalanjaga vaatham* and quality of life in *Kaalanjaga vaatham* patients before and after taking Siddha medicines. Aim & Objectives: To estimate the prevalence of *Kaalanjaga vaatham* in patients with *Kaalanjagapadai*; To evaluate the nature of quality of life in patients with *Kaalanjaga vaatham* before and after taking Siddha medicines. Materials and Methods: In this study, about 100 patients with *Kaalanjagapadai* were studied to assess the prevalence of *Kaalanjaga vaatham*. According to the CLASSification for Psoriatic ARthritis (CASPAR) criteria, the quality of life in *Kaalanjaga vaatham* patients were evaluated using the Psoriatic Arthritis Quality of Life (PsAQoL) questionnaire. Results: In the entire study population of patients with psoriasis, the total prevalence of Psoriatic arthritis was 13% (n/N = 13/100), with 69% (9/13) of Psoriatic arthritis cases were diagnosed as new cases, and the quality of life in *Kaalanjaga vaatham* patients were moderately improved with 52% after Siddha treatment. Conclusion: After taking Siddha medicines, the Psoriatic arthritis patients' quality of life improved significantly. Thus, early diagnosis and intervention play an essential role in enhancing the Quality of Life of Psoriatic arthritis patients.

Keywords: *Kaalanjaga vaatham*, Psoriatic Arthritis, Prevalence, Siddha medicines, Quality of life.

INTRODUCTION

Siddha system of medicine is one of the traditional systems of medication existing in the southern part of India, Tamil Nadu, from times immemorial¹. According to the Siddha system of medicine, diseases occur due to the derangement of three elemental vital humours named *vaatham*, *pitham*, and *kabham*. Diseases were classified into 4448 types based on these three vital humours².

Skin diseases are classified as 18 in the Siddha system of medicine. These diseases are commonly classified under *kuttam*. Psoriasis, vitiligo, eczema, Hansen's disease, and tinea infections of the skin are also classified under *kuttam*. The clinical features of psoriasis may be correlated with signs and symptoms of *Thadippu Perunoi (Theethru kuttam)* in Siddha³. In *Yugi vaiithiya chinthamani* text, *Kaalanjaga vaatham* is one of the types of *Vathanoigal* 80⁴. *Kaalanjaga vaatham* is one of the complications of *kaalanjagapadai* and *Kaalanjagapadai* is specifically mentioned as a *kanma* disease in *Agathiyar Paripooranam* 400⁵.

Psoriatic arthritis is a multi-organ chronic inflammatory disease which impacts both physically and psychologically, and it is a heterogeneous multifaceted inflammatory arthritis associated with psoriasis. Psoriatic arthritis patients have difficulty with activities of daily living like dressing and grooming, arising, eating, walking, hygiene, reaching, gripping, and errands and chores⁶. The usual age at onset is 30-50 years. The essential distinguishing features of psoriatic arthritis were asymmetrical joint distribution, Involvement of distal finger joints, Presence of sacroiliitis or spondylitis and absence of rheumatoid nodules⁷. The symptoms of *Kaalanjaga vaatham* mentioned in Siddha text *Yugi vaiithiya chinthamani* are closely related to Psoriatic arthritis.

There is no detailed information about the prevalence of *Kaalanjaga vaatham* in patients with *Kaalanjagapadai* reported at Ayothidoss Pandithar Hospital, National Institute of Siddha, Chennai, Tamil Nadu, India, and the Psoriatic Arthritis patients have impaired health-related – the quality of life. Therefore, this cross-sectional study was conducted to determine the prevalence of *Kaalanjaga vaatham* and quality of life in *Kaalanjaga vaatham* patients before and after taking Siddha medicines for 48 days.

MATERIALS AND METHODS

This observational study was a hospital-based cross-sectional study in which 100 *Kaalanjagapadai* patients aged between 13 and 69 years reporting at OPD of Ayothidoss Pandithar Hospital, National Institute of Siddha, was selected on the clinical symptoms of *Kaalanjaga vaatham*, inclusion and exclusion criteria. This study was conducted after obtaining approval from the Institutional Ethics Committee of the National Institute of Siddha, and the IEC number is NIS/IEC/2020/MP-7. This study was prospectively registered in CTRI (India's clinical trial registry). Register number -CTRI/2020/07/026436. The study period was 6 months, from July to December 2020.

Kaalanjagapadai patients were enrolled in the study using the Non-Randomized (Judgmental) Sampling method. The patients were screened after obtaining informed written consent to assess the prevalence of *Kaalanjaga vaatham* in patients with

Kaalanjagapadai in terms of CLASSification for Psoriatic ARthritis (CASPAR) criteria⁸. *Kaalanjaga vaatham* patients were studied with regular OPD medicines for 48 days according to their clinical requirements to assess any significant differences in the nature of quality of life in *Kaalanjaga vaatham* patients before and after taking Siddha medicines in terms of Psoriatic Arthritis Quality of Life (PsAQoL) questionnaire⁹.

The scoring was done by dividing the 20 items of PsAQoL Questions into four domains such as (i) Physical activity limitation domain, (ii) Fatigue domain, (iii) Psychological distress / Emotional function domain, (iv) Social participation limitation domain.

All collected data were entered into the computer using MS access / MS excel software. The data were analysed using SPSS software to determine whether this study result was statistically significant (p-value <0.05).

OBSERVATION AND RESULTS

Table 1: The Prevalence of *Kaalanjaga vaatham*

Factors	Number of Patients	Percentage
<i>Kaalanjaga vaatham</i>	13	13%
<i>Kaalanjagapadai</i>	87	87%
Total	100	100%

Table 2: Predominant factors among *Kaalanjaga vaatham* patients

Factors	Predominant Category	Percentage
Age distribution	30-50 years	69%
Gender distribution	Male	62%
Socio Economic status	Middle-class family	92%
BMI	18.5-24.9 (Normal to Overweight)	61%
Occupation	Labour / unskilled workers	31%
	Desk work	31%
	Unemployed	31%
Nail involvement	With nail involvement	85%
The clinical pattern of PsA	Symmetrical polyarthritis	54%

Table 3: Improvement of Quality of Life in domains of Psoriatic arthritis

PsAQoL in Domains	N	Mean ± SD		Mean diff.	% Improvement	‘t’	P-value	Remarks
		BT	AT					
Physical activity limitation domain	13	2.69±0.95	1.85±1.46	0.85	32%	3.8105	<0.0025	S.S
Fatigue domain	13	2.00±1.15	0.62±0.77	1.38	69%	7.6752	<0.0001	S.S
Psychological distress /Emotional function domain	13	1.92±1.38	0.92±0.76	1.00	52%	3.9497	<0.0019	S.S
Social participation limitation domain	13	3.31±1.55	1.31±1.32	2.00	60%	6.6762	<0.0001	S.S

*PsAQoL - Psoriatic Arthritis Quality of Life, *N – Number of patients, *BT – Before Treatment, *AT – After Treatment, *SD – Standard Deviation, *S.S – Statistically Significant)

Table 4: Improvement of Quality of Life in *Kaalanjaga vaatham* patients

Parameter	N	Mean ± SD		Mean diff	% Improvement	‘t’	P-value	Remarks
		BT	AT					
PsAQoL	13	10.08±4.23	4.85±3.58	5.23	52%	12.7376	<0.0001	S.S

*PsAQoL - Psoriatic Arthritis Quality of Life, *N – Number of patients, *BT – Before Treatment, *AT – After Treatment, *SD – Standard Deviation, *S.S – Statistically Significant

Table 5: The overall assessment of Quality of Life in domains of Psoriatic arthritis

Remarks	% Improvement in Domains
Good improvement (75%-100%)	-
Moderate improvement (50%-75%)	Fatigue domain (69%)
	Social participation limitation domain (60%)
	Psychological distress / Emotional function domain (52%)
Mild improvement (25%-50%)	Physical activity limitation domain (32%)
No improvement (below 25%)	-

Table 6: Overall assessment of Quality of Life in *Kaalanjaga vaatham* patients

Remarks	% Improvement in PsAQoL
Good improvement (75%-100%)	-
Moderate improvement (50%-75%)	PsAQoL (52%)
Mild improvement (25%-50%)	-
No improvement (below 25%)	-

Out of 100 patients with psoriasis, 13 (13%) patients were diagnosed as *Kaalanjaga vaatham* according to the CASPAR criteria.

The mean score of quality of life in the Physical activity limitation domain before Siddha treatment was 2.69, and after Siddha treatment was 1.85 with 32% improvement. There was a statistically significant ($p < 0.0025$) result with a “t” value of 3.8105.

The mean score of quality of life in the Fatigue domain before Siddha treatment was 2.00, and after Siddha treatment was 0.62 with 69% improvement. There was a statistically significant ($p < 0.0001$) result with a “t” value of 7.6752.

The mean score of quality of life in the psychological distress /Emotional function domain before Siddha treatment was 1.92, and after Siddha treatment was 0.92 with 52% improvement. There was a statistically significant ($p < 0.0019$) result with a “t” value of 3.9497.

The mean score of quality of life in the social participation limitation domain before Siddha treatment was 3.31, and after Siddha treatment was 1.31, with a 60% improvement. There was a statistically significant ($p < 0.0001$) result with a “t” value of 6.6762.

The mean score of quality of life in *Kaalanjaga vaatham* patients before Siddha treatment was 10.08, and after Siddha treatment was 4.85 with 52% improvement. There was a statistically significant ($p < 0.0001$) result with a “t” value of 12.7376.

DISCUSSION

Psoriatic arthritis can be compared with *Kaalanjaga vaatham* in the Siddha system of medicine. Psoriatic arthritis has been defined as inflammatory arthritis associated with psoriasis, usually seronegative for rheumatoid factor.

The data on the prevalence of Psoriatic arthritis among patients with psoriasis varies from 6% to 42%¹⁰. In a small series from South India, PsA was reported in 8.47% of cases of psoriasis¹¹.

In this study, Overall, 100 patients with psoriasis were studied over this period. Out of 100 patients with psoriasis, 13 (13%) fulfilled at least one of the above criteria, indicative of possible joint involvement. In 4(31%) of these patients, a diagnosis of PsA had already been established in the past. In addition, 9 (69%) patients were newly diagnosed with PsA. Thus, the total prevalence of Psoriatic arthritis was 13 ($n/N = 13/100$) in the entire study population, with 69% (9/13) of Psoriatic arthritis cases diagnosed as new. Patients having osteoarthritis or other diagnoses of arthritis were excluded.

In this study, the prevalence of *Kaalanjaga vaatham* is 13% in the *kaalanjagapadai* patients reported at Ayothidoss pandithar hospital, National Institute of Siddha, Chennai, Tamil Nadu, India.

The age of onset for Psoriatic arthritis has been reported from 30 to 50 years, similar to that of rheumatoid arthritis¹². In this study, 69% of patients were in the age group of 30-50 years. Another Indian study¹³ has reported a peak incidence (69%) of Psoriatic arthritis in the fourth and fifth decades of life.

PsA affects men and women almost equally¹⁴ while this study showed a male preponderance with 62 %. Wright¹⁵ and some Indian studies¹⁶ have reported similar findings. A male preponderance could also be due to the overall proportion of male patients visiting higher in the OPD of Ayothidoss pandithar hospital, national institute of Siddha, Chennai -600 047.

In this study, most people fall within the 18.5-29.9 BMI range, i.e., between normal and overweight, and most of them were from middle-class families with 92.0%. Labour / unskilled workers, desk workers, and unemployed were reported. Each of them was with 31%.

The reported frequency of nail involvement in patients with Psoriatic arthritis varies from 63% to 97%¹⁷. In this study, 85 % of patients with Psoriatic arthritis had nail involvement. Nail changes in a patient with psoriasis should prompt a search for joint disease. There is a strong anatomical link between Psoriatic arthritis and nail inflammation¹⁸.

Oligo arthritis was the most common pattern of Psoriatic arthritis, occurring in 42-67% of patients¹⁴. Studies by Rajendran *et al.*¹³ (48.3%) and Reich *et al.*¹⁷ (58.3%) have reported polyarthritis as the most common pattern. In this study, the most common pattern of Psoriatic arthritis was Symmetrical polyarthritis which is observed in 54% of cases.

Of the four domains of psoriatic arthritis, social participation and Physical activity limitation domains have a high negative impact on the quality of life in psoriatic arthritis patients.

The fatigue domain (69%), Social participation limitation domain (60%) and psychological distress/ Emotional function domain (52%) were moderately improved, and the Physical activity limitation domain (32%) had mild improvement after taking Siddha treatment.

Overall improvement in *Kaalanjaga vaatham* patients after taking Siddha treatment was 52%. So, the quality of life was improved moderately in *Kaalanjaga vaatham* patients after taking Siddha treatment.

CONCLUSION

In the entire study population of patients with psoriasis (100), the total prevalence of Psoriatic arthritis was 13% ($n/N = 13/100$), with 69% (9/13) of Psoriatic arthritis cases were diagnosed as new cases. This low prevalence of Psoriatic arthritis in OPD of Ayothidoss pandithar hospital, National Institute of Siddha, Chennai, Tamil Nadu, India, may be due to a lack of awareness about the Psoriatic arthritis.

After Siddha treatment, the Psoriatic arthritis patients were moderately improved with 52% in Quality of Life. Thus, early diagnosis and intervention play an essential role in enhancing the Quality of Life of Psoriatic arthritis patients.

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