

A cross-sectional study on etiopathology and clinical findings of *Mulangaal vaadham* among the inward patients in Siddha Teaching Hospital, Kaithady, Jaffna

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Abstract

Mulangaal vaadham (Knee Osteoarthritis) is one of the *Vaadha* disease. Pain, swelling and stiffness in knee joint are the important clinical features of this disease. This research was aimed to study about etiopathology and clinical findings of *Mulangaal vaadham* among the inward patients in Siddha Teaching Hospital, Kaithady, Jaffna. This was a hospital-based Descriptive Cross-Sectional Study. It was conducted among the thirty inward patients who were diagnosed with *Mulangaal vaadham* by Siddha physicians in Siddha Teaching Hospital, Kaithady, Jaffna. Data were collected by using Interviewer structured Questionnaire. Examination was done and recorded in the case record sheet. Collected data were processed and analyzed by using MS Excel. According to the study, 97% of the patients were above the age 50 and 77% of them were females. Obese and overweight were the causes of *Mulangaal vaadham* in 67% of the patients; prolonged standing and excessive walking were in 37% of the patients. Based on the results, 100% of the patients had pain in the knee joint. Joint stiffness and difficulty in walking were present in 87% of the patients. Identified signs were crepitus in 100% of the patients, tenderness in 83% of the patients, swelling and heat in 73% of the patients. Prolonged standing and walking increase the pain in all the patients. Cold climates and foods like bitter-gourd, pumpkin, plantain and long beans aggravates pain in 83% of patients. *Vaadha-Pitta naadi* was predominant in 77% of patients in morning and 93% in the afternoon and evening. Therefore, these findings show that *Mulangaal vaadham* may be caused due

to vitiated *Vaadham* which is produced by *Thaathu sheenam* (Degenerative changes in bones of knee joint). However, similar studies should be conducted with higher number of the patients in future to make a firm conclusion.

Keywords: *Mulangaal vaadham*, Siddha Medicine, Siddha Teaching Hospital

Introduction

Siddha Medicine is one of the ancient traditional systems of medicine. It was formulated by Siddhars. According to Siddha philosophy, both the universe and human are constructed by five elements called *Panchaboodhas*. The three humors called *Vaadha*, *Pitta* and *Kapha* are formed by the combination of *Panchaboodhas*. Ratio between *Vaadha*, *Pitta* and *Kapha* in healthy individuals is 1: 1/2: 1/4. Diet patterns, behaviours and the environmental factors play an important role in the maintenance of the equilibrium between these three humors. Derangements in this equilibrium results in diseases. Based on the derangements in normal equilibrium, diseases are classified into *Vaadha*, *Pitta* and *Kapha* in Siddha medicine.^{1,2,4}

Vaadha is the humor which is formed by the combination of *Aahayam* (space) and *Kaatru* (air). *Vaadha* diseases are produced due to improper diet patterns, behaviours and environmental factors which increase the *Vaadha dhosham* such as excessive intake of dry, cold and light foods, starvation, sleeplessness, excessive exercise and suppression of stool, urine and hunger.¹ There are 80 *Vaadha* diseases in Siddha medicine.^{1,2,7} Among

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them, 40 diseases are originated above hip and 40 diseases are below the hip. *Mulangaal vaadham* is one of the *Vaadha* disease below hip region.¹ Pain, swelling and stiffness in knee joint are the clinical features of *Mulangaal vaadham*.⁶ It may be compared osteoarthritis in the knee joint.

In Siddha Medicine, clinical features of diseases are diagnosed by the special senses (*Iymporigal*) of the physicians. And also, *Naadi* is an important diagnostic tool in which the derangements of three humors in *Mulangaal vaatham* can be investigated properly.^{2,4,8} *Vaadha naadi* is more prominent alone or along with *Pitta* or *Kapha naadi* in *Mulangaal vaatham*. The detailed study of *Mulangaal vaadham* and relationship between *Naadi* and *Mulangaal vaadham* haven't been published previously. Around 50 patients with *Vaadha* diseases are treated monthly in Siddha Teaching Hospital, Kaithady. Therefore, this research was aimed to study about etiopathology and clinical findings of *Mulangaal vaadham* among the inward patients in Siddha Teaching Hospital, Kaithady, Jaffna.

Materials and Methods

This was a hospital-based Descriptive Cross-Sectional Study. It was conducted among the inward patients (Ward No.1,2,3 &4) who were diagnosed with *Mulangaal vaadham* by Siddha physicians in Siddha Teaching Hospital, Kaithady, Jaffna. Ethical clearance for the study was obtained from Ethical Review Committee, Faculty of Medicine, University of Jaffna and the Permission for the study was obtained from the Medical Officer In charge, Siddha Teaching Hospital, Kaithady, Jaffna. Random sampling technique was used to collect the samples of this study for the period of six months. Both male and female patients above the age 30 who were diagnosed with *Mulangaal vaadham* were included as participants and pregnant mothers were excluded. Informed consent was obtained from the participants and preliminary pilot study was conducted randomly among five patients with *Mulangaal vaadham*. These participants were not included for the main study. Interviewer structured Questionnaire and case record sheet were prepared based on the objective.

Sumaiya et. al., A cross-sectional study on etiopathology....

Data were collected from the participants by using Interviewer structured Questionnaire. Examination was done by the researcher and recorded in the case record sheet. Collected data were processed and analyzed by using MS Excel.

Results

Thirty patients with *Mulangaal vaadham* were participated in this study. Figure 1 shows the age and sex of the patients. According to the study, 97% of the patients were above the age 50 and 77% of them were females.

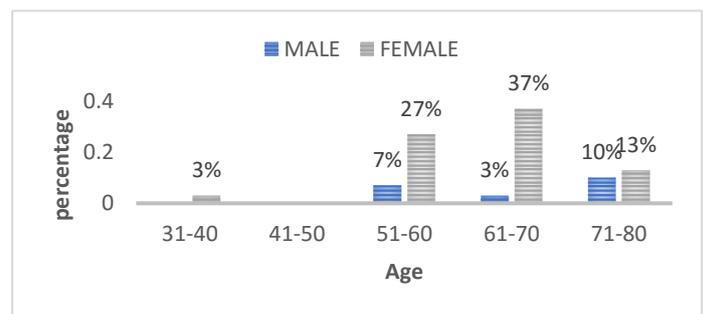


Fig.1: Age and Sex of the patients

Figure 2 illustrates the causes for *Mulangaal vaadham*. 67% of the patients fall under obese and overweight. Prolonged standing and excessive walking were one of the causes of *Mulangaal vaadham* in 37% of the patients.

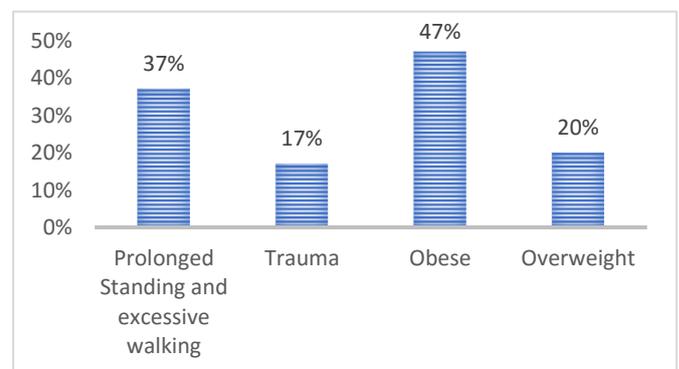


Fig. 2: Causes of *Mulangaal vaadham*

Table 1 shows the sign and symptoms of *Mulangaal vaadham* among the patients. Based on the results, 100% of the patients had pain in the knee joint. Joint stiffness and difficulty in walking were present in

87% of the patients. And, identified signs among the patients on the examination of knee were crepitus in 100% of the patients, tenderness in 83% of the patients, swelling and heat in 73% of the patients.

Table.1: Clinical features of *Mulangaal vaadham*

Clinical features	Number of patients	Percentage
Symptoms in <i>Mulangaal vaadham</i>		
Pain in the knee joint	30	100%
Stiffness in the knee joint	26	87%
Difficulty in walking	26	87%
Signs in <i>Mulangaal vaadham</i>		
Crepitus	30	100%
Tenderness	25	83%
Swelling in the knee joint	22	73%
Heat	22	73%
Bow legs	8	27%
Redness	5	17%
Knock knees	1	3%

Figure 3 illustrates that the Aggravating factors of *Mulangaal vaadham*. According to the results, 100% of the patients reported that the pain was aggravated during prolonged standing and walking. Cold climates and foods like bitter gourd, pumpkin, plantain and long beans increase the pain in 83% of patients.

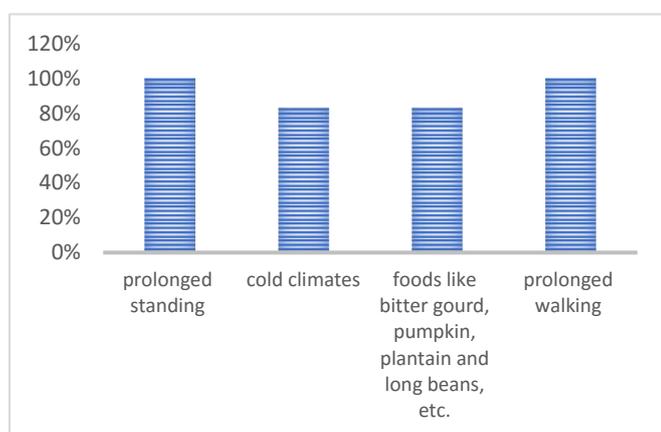


Fig. 3: Aggravating factors of *Mulangaal vaadham*

Table 3 shows the examination of *Naadi*. Based on the results, in the morning, *Vaadha-Pitta naadi* was identified in 77% of patients and *Pitta-Vadha naadi* was present in 10% of the patients. In the afternoon and evening, *Vaadha-Pitta naadi* was found in 93% of patients.

Discussion

Mulangaal vaadham is one of the *Vaadha* disease in siddha system of medicine. *Vaadha kaalam* is above 66 years of age according to Siddha text '*Agasthiyar 2000*'.² Our current research study shows that 97% of the patients were diagnosed with *Mulangaal vaadham* above the age 50. The occurrence of the disease in earlier than the *Vaadha kaalam* may be due to negligence of ancient diets and habits such as oil application for whole body, underuse of millets foods and full body massage, etc.¹⁴ Therefore, *Mulangaal vaadham* depends on the age. *Vaadha* diseases are produced due to vitiated *Vaadha dhosham* (*Vaadha prakopam*). *Thaathu sheenam* (Degenerative Changes in the bones and muscles) and *Surotho-avarodham* (Blockage of the channels) are the two main causes for vitiated *Vaadha dhosham*.^{11,12} Degenerative changes occur by the end of fourth decades of life [13]. Therefore, *Thaathu sheenam* (degenerative changes in the knee joint) increase *vaadha dhosham* and results in *Mulangaal vaadham*.

According to Siddha texts, *Vaadha* diseases are produced due to excessive intake of dry, cold and light foods, starvation, sleeplessness, excessive exercise and suppression of stool, urine and hunger.¹ Our study reveals that *Mulangaal vaadham* is caused due to obese and overweight in 67% of the patients and prolonged standing and excessive walking in 37% of the patients. (Figure 3) Obesity or prolonged standing produces degenerative changes especially in weight bearing joints and results in *Thaathu sheenam*. This also increase the *Vaadha dhosham* in the joints.

Increased *Vaadha dhosham* in the knee joint produces the clinical features of this disease. Based on the results, patients present with the clinical features such as pain and crepitus (100%), stiffness

Table 2: Naadi Examination among the patients with *Mulangaal Vaadham*

	<i>Vaadha-Pitta naadi</i>		<i>Pitta- Vaadha naadi</i>		<i>Vaadha naadi</i>	
	Frequency	%	Frequency	%	Frequency	%
Morning	23	77%	3	10%	4	13%
Afternoon	28	93%	2	7%	-	-
Evening	28	93%	2	7%	-	-
Average for three times	27	90%	2	7%	1	3%

and difficult to walk (87%), tenderness (83%) swelling and heat (73%). (Table 1) Siddha literatures also mention that the clinical features of *Mulangaal Vaadham* are pain, swelling, discomfort and the stiffness in knee joint.⁶

According to the Siddha texts, *Vaadham* is formed by the combination of *Vaayu* and *Aahayam*. Coldness, dryness and *lightness* are the characters of *Vaadham*. And also, the conditions that are related to the same character of *Vaadham* increase the *Vaadha dhosham*.^{1,2,4} Therefore, cold climates increase *Vaadha dhosham* and the pain is aggravated in 83% of patients. (Figure 3) Similarly, Siddha literatures mention that the bitter and astringent tastes increase the *Vaadha dhosham* and our study shows that foods such as bitter gourd, pumpkin, plantain and long beans, etc. increase pain in 83% of the patients. This kind of foods have bitter and astringent tastes. Therefore, the pain is increased *Mulangaal vaadham*.

According to Siddha medicine, *Vaadha naadi* is predominant in the morning, *Pitta naadi* in afternoon and *Kapha naadi* in the evening in a day.³ Based on the study results, *Vaadha-Pitta naadi* was identified in 77% of patients in the morning and in 93% of patients in the afternoon and evening. (Table 2) This shows that the normal physiological fluctuation of *Naadi* in a day is disturbed and *Vaadha* component *Naadi* is predominant whole day. Because, *Naadi* indicates the state of the humours in the body.^{3,8} Therefore, the *Vaadha* component *Naadi* is predominant in these patients as the *Vaadha dhosham* increases in *Mulangaal Vaadham*.

Conclusion

Mulangaal vaadham is a *Vaadha* disease which is common in elderly people. It may be caused due to vitiated *Vaadham* which may be produced by *Thaathu sheenam* (Degenerative changes in bones of knee joint). *Vaadha-pitta naadi* is predominant in *Mulangaal vaadham* according to this study. However, similar studies should be conducted with higher number of the patients in future to make a firm conclusion.

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