

RESEARCH ARTICLE

Comorbidity Profile of Siddha Varmam Therapy Patients and Insight into Integrative Pain Management: A Cross Sectional Study

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ABSTRACT

Introduction: Traditional medical system is one of the centuries old practices and serving mankind to fight against disease. Siddha System of medicine is one among the Indian system of medicine popular in India and other Tamil speaking countries. Varmam therapy, which is unique to Siddha System, which involves manipulation of life energy points in the body.

Methods: Objective: To explore the comorbidity of the patients with musculoskeletal disease conditions and insight into integrative pain management. Design: Cross sectional study. Setting: Siddha Varmam Thokkanam and Traditional Bone setting (VTTB) division out-patient department, at Siddha Central Research Institute, Chennai, during the July to December 2019.

Results: There were 1592 adult patients, of which 830 were male and 762 were females and majority of them were in the age group 51-60 years (32.53%) and 25.75% in the age group 61-70years and 22.8% in 41-50 years age group. 55.4% of patients visiting the facility were within 10km distance from their residence while 3.84% were travelling more than 100km to reach the facility. 60.18% of the patient had diabetes, 50.31% had hypertension, 9.8% hypothyroidism, 4.45% cardiovascular disease, 22.5% had combined diabetes and hypertension, for which, 10.65% was taking only siddha medicine for their diabetic control and 15.97% were on integrative treatment, allopathy and Siddha medicine for their diabetic control.

Conclusion: The present study insists to consider the comorbid conditions of patients visiting Siddha health facilities across the state and projecting integrative Siddha Varmam therapy for pain considering comorbidities irrespective of pharmacological interventions.

KEYWORDS:

Siddha, Varmam therapy, Comorbidity, diabetes, hypertension, pain

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1. INTRODUCTION

Traditional medical system is one of the centuries old practices and serving mankind to fight against disease and to lead a healthy life. Siddha System of medicine is one among the Indian system of medicine postulated, practiced, immensely contributed and established mainly in the southern part of India and in Tamil speaking countries like Srilanka, Malaysia,

Singapore. These practices are influenced by factors like culture, history, personal attitudes and philosophy(1,2). In many cases, these theories and applications are quite differed from those of conventional medicine.

As India is native of pluralistic traditional medical system, Government of India understood its importance and derived policy in strengthening this traditional medical systems by institutionalization. In March 1995, Government of India

created Department of Indian System of Medicine and Homeopathy (ISM&H) and renamed as Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) in November 2003 and subsequently it was upgraded as Ministry of AYUSH under Government of India, on 9th November 2014, with focused attention for development of education and research in these health streams. Around 6.9% of the population is utilizing Indian system of medicine care in India. Research carried out in Indian traditional medicines are very meagre (3). Therefore a research council named Central Council for Research in Indian Medicine, Homoeopathy and Yoga (CCRIMH) was established in 1971 by the Indian government. Subsequently, this council was bifurcated to separate councils - Central Council for Research in Ayurveda & Siddha (CCRAS), Central Council for Research in Unani Medicine (CCRUM), Central Council for Research in Homoeopathy (CCRH) and Central Council for Research in Yoga and Naturopathy (CCRYN). Initially, Central Research Institute for Siddha (CRIS) was established on 1975 under the CCRIMH later functioned under CCRAS. In September 2010, Central Council for Research in Ayurveda & Siddha (CCRAS) was bifurcated to Central Council for Research in Siddha (CCRS) and Central Council for Research in Ayurvedic Sciences (CCRAS), CRIS institute was renamed as Siddha Central Research Institute (SCRI), functioning under CCRS at Anna Hospital campus, Arumbakkam, Chennai.

In 2010, a speciality out-patient department for Siddha Varmam therapy was started in SCRI, mainly for the orthopaedic conditions. Siddha Varmam therapy, which is unique to Siddha System, having its root originated in southern part of Tamil Nadu evolved from the martial art. The division gained its momentum since inception. In 2012, this special OPD had expanded to Varmam Thokkanam and Traditional Bone setting (VTTB) division, under Department of Clinical Research, SCRI. Few studies on effectiveness of the Siddha Varmam treatment for various ailments were published (4,5). However, there is a necessity to examine the morbidity profile of the patients for better understanding of health seeking behaviour towards Siddha Varmam OPD. The treatment would be incomplete if the comorbid conditions are not considered and addressed.

Hence, there is a need to analyse the comorbidity profile of the patients attending Siddha Varmam OPD. This knowledge will help to improve the management of common illness in a integrative approach.

2. METHODS

2.1. Study design

A cross-sectional descriptive study was conducted among the out-patients attending Siddha Varmam Thokkanam and Traditional Bone setting division (VTTB) outpatient department at Siddha Central Research Institute (SCRI), Chennai, India. The reporting of this observational study was adhered to Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) Statement (6).

2.2. Study Setting

This study was carried out in the out-patient department of Varmam Thokkanam and Traditional Bone setting division (VTTB) of Siddha Central Research Institute (SCRI), Chennai, India,. The OPD was handled by the qualified Siddha physicians specialised with Varmam therapy and traditional bone setting, who provided outpatient services in the forenoon of all calendar days in a year.

2.3. Participants

All consecutive individuals above 20 years of age, who attended the Siddha Varmam OPD during the month of July to December 2019 were eligible for the study.

2.4. Data collection

The demographic data were collected at the time of OPD registration and the co-morbid conditions during the consultation by the qualified Siddha physicians. Data were entered using Microsoft Office Excel 2016 for Windows 10 (Version 1805, Microsoft Corporation, Redmond, Washington, United States). Data entry was done by the data entry operators and was closely supervised by the Siddha Physicians. All the entries were cross-checked by one of the author (CA).

2.5. Ethics

The personal identifiers such as name and address of the patient's records were removed to ensure the confidentiality and anonymity. Collection of information regarding the age, gender, address from patients visiting OPD was being done routinely. The present complaints and their history of past complaints, treatment history for other ailments were also collected by the physician during consultation. Apart from this routine information no additional information were collected from the patients and there is no violation of ethics of the patients. Hence, Institutional Human ethics committee clearance was not sought.

2.6. Statistical analysis

After stratification by age and gender we compared the frequency distribution of patients and their comorbid conditions. Statistical analysis for frequency distribution were performed using IBM SPSS Statistics Version 26 (Armonk, New York, NY, United States).

3. RESULTS

There were 1592 adult patients who attended the outpatient department of VTTB division, SCRI, Chennai during the period July to December 2019. Of 1592, 830 (52%) were male and 762 (48%) were female. Majority of the patients were in the age group 51-60 years (32.53%), and 25.75% in the age group 61-70 years and 22.8% in 41-50 years age group. Repeat attendees to the OPD were excluded from gender and age analysis. The oldest attendee was recorded as 91 years and there were 16 patients in the age group 81-90 years. All of them were able to converse comfortably in Tamil language. Our data indicated that 10.3% of patients came from a distance 7-8kms and nearly

55.4% were within 10km distance. 32.1% from 10-20kms distance from their residence to the outpatient facility. It was also observed that there were minimal percentage of patients visited the VTTB outpatient department from more than 100 - 800kms distance from their residence.

Musculoskeletal pain topped the list of morbidities of Siddha Varmam speciality OPD (SCRI, Chennai)(Figure.1). Diabetes (DM), hypertension (HTN), dyslipidemia (DL), coronary artery disease (CAD), cerebrovascular disease (CVD), chronic renal failure (CRF), Hypothyroidism and bronchial asthma (BA) are the co morbid conditions among the patients (figure 2) and their distribution with respect to age and gender is presented in Table 1. It is observed that 73.38% of patients were taking allopathic medicines alone, 15.97% were taking combined allopathic and Siddha medicines and 10.65% were taking Siddha medicine alone for Diabetes. It is observed that combination of co morbidities among the patients as 22.55% with diabetes and hypertension, 2.95% with diabetes and dyslipidemia, 3.2% with hypertension and dyslipidemia and 1.82% with diabetes, hypertension and dyslipidemia. Further the combination of other comorbidities with hypothyroidism and cardio vascular disease is depicted in Figure (3 and 4)

4. DISCUSSION

Overall the study indicates that the patient attending VTTB division of SCRI outpatient department for their present complaints were with the history of one or more co-morbid conditions. In our study the patients with diabetes were 60.18%, with hypertension were 50.31% and with both were 22.55%. Also among 1592 patients, 1.82% of them had history of diabetes, hypertension and dyslipidaemia.

The management of diabetes increases 1.5 times in the presence of the comorbid condition like hypertension than with the non-hypertensive diabetic patients (7). Thus these two are well entangled conditions, involving overlap of multiple risk factors and complications. Previous study showed that three out of four diabetes patients also have hypertension (8). The study by Goutham Kesavamoorthy et al,2015 (9) showed that 24% of the non-hypertensive diabetics and 33% of the hypertensive diabetics reported their general health as fair/poor and these results were higher than previous study in which 14.7% (10).

The epidemiological studies conducted by Anchala R et.al,2014 and Gupta R.et.al 2016 reported that hypertension was present in 25-30% urban and 10-20% rural subjects in India (11,12). But there are large regional variation in this prevalence. Fourth National Family Health Survey (NFHS-4) implemented in India, both in urban and rural areas has reported significant regional variations in the prevalence (13). This survey provided information on various demographic parameters, family welfare and health indicators at national, state and district level as well. The prevalence was greater in the Southern, North Eastern and North Western states of the country and is significantly greater in men as compared to women. Of the 33 states, hypertension prevalence of >15% is

observed in 8 states (24.2%) states and low prevalence (<5%) is observed in 6 states (18.2%), while other states had a medium prevalence of 5-15%.

Hypertension leads to mortality through its effects on cardiovascular, renal function and endocrine functions. Thus it is essential to increase the treatment for hypertension and controlling it in order to achieve the WHO Global Monitoring Framework targets for delivering UN Sustainable Development Goals (SDG) in developing countries, like India(14).

In our study nearly 4.45% of the patients had history of coronary artery disease. Global burden of mortality including low and middle -income countries appears to be the cardiovascular disease (15) and India contributed nearly one-fifth (18.6%) of this global burden (16). Mean 10 years cardiovascular disease risk stratified by age, gender, urban and rural population showed that those living in urban areas had higher risk and irrespective of gender and location, the risk was higher in the economically wealthy group(17).

In our study, 9.8% of the patients had hypothyroidism and among them, females in the age group 41-50 years had higher prevalence (30.7%) (Table 1).

Earlier studies had shown that hypothyroidism in general population is associated with increased cardiovascular morbidity and mortality due to its adverse effects on endothelial function, cardiac contractility, atherosclerosis and systemic vascular resistance.(18-20). Hypothyroidism also leads to diminished kidney function through variations in renal hemodynamics and structure(21,22), which may be associated with increased cardiovascular morbidity and mortality in Chronic Kidney Disease (CKD) and End Stage Renal Disease (ESRD)(23-33)

Hypothyroidism even in subclinical form is associated with altered myocardial oxygen consumption, blood pressure and electrophysiologic conduction and may lead to impaired vaso-reactivity, increased mean arterial pressure and diastolic hypertension (20,34).

Hypothyroidism causes dyslipidemia in 90% of the patients, most commonly manifested by elevated total cholesterol and LDL-cholesterol levels and triglyceride levels(35-37).Meta analyses and few observation studies had shown that even subclinical hypothyroidism may be associated with heart failure risk(38,39) or ischemic heart disease (40-43).

The study conducted in Indian patients with type 2 diabetes showed that one-tenth of them were found to have clinical hypothyroidism (TSH>10 mIU/ml) while one-fifth had subclinical hypothyroidism (TSH 5-10 mIU/ml) (44).

Type 2 diabetes and hypertension have an intersecting underlying pathology with hypothyroidism. In one study there was a high prevalence of thyroid disorder in diabetes patients (12-23%)and 22.5% in patients with hypertension (45). In another study the prevalence of hypothyroidism in patients with type 2 diabetes and hypertension were found to be 26.9% and 31.2% respectively(46). Thus the screening for

hypothyroidism in patients with type 2 diabetes and hypertension not only lead to manage hypothyroidism but helps in reducing the complications of diabetes and hypertension.

Sufferings from multiple chronic diseases like diabetes, hypertension, dyslipidemia intends the patients to take many medications. It is was estimated that elderly people taking 2-9 medications per day causing the inappropriate medications leads to adverse drug reactions. Multiple medications potentiates drug drug interactions leading to prescribing cascades. Prescribing cascades is mentioned as treating the ADR as a disease condition further deteriorating the condition worse(47). Trend of seeking non pharmacological interventions for morbid conditions like musculo skeletal pain is increasing globally.

This study indicated that 15.97% of diabetic patients were on integrative treatment on allopathy and siddha medicine, 10.65% on only siddha medicine and nearly three-fourth were on allopathy medicines, wherein taking Siddha Varmam therapy for pain management intended to reduce the risk of polypharmacy. This promotes health seeking behaviour towards non pharmacological Siddha Varmam therapy among the patients who have all along travelled from more than 100 kilometres distance from their residence. Further studies are warranted in establishing the preference and the treatment outcome of the patients who attended this speciality OPD.

The study also reports that majority of the patients above 50 years preferred to seek Siddha Varmam therapy. The present study insists the importance of Siddha Varmam therapy to be advised for the patients with comorbid conditions like diabetes, hypertension, hypothyroidism, bronchial asthma (48), although the patients mainly visit Varmam OPD for their orthopaedic conditions. This provide an integrative treatment for pain considering comorbidities irrespective of pharmacological interventions

5. CONCLUSION

This study provided evidence of the comorbid status of the patients seeking speciality Siddha Varmam Therapy for the musculoskeletal disease/disorders. This study also instigates to address the existing comorbid conditions while treating in a integrative approach.

These findings carry an important implication for the development of existing and future health initiatives in the Siddha health facilities across the state and country. Further research on the health seeking approach and use of traditional medicine and integrative medicine is warranted in order to improvise health services which meets out the population's need for building up healthy society in a culturally acceptable manner.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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Table 1: Age and gender distribution of the Comorbid status of the patients (n=1592) attended VTTB division of SCRI OPD, Chennai during July-December 2019.

Age Group (in years)	DM (n=958)		HTN (n=801)		DL (n=90)		CAD (n=71)		Hypothyroid (n=156)	
	Male, n(%)	Female, n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)	Male n(%)	Female n(%)
21-30	1(0.1)	3(0.31)	2(0.25)	1(0.12)	0(0)	2(2.22)	1(1.41)	0(0)	0(0)	7(4.49)
31-40	28(2.92)	26(2.71)	18(2.25)	22(2.75)	1(1.11)	1(1.11)	1(1.41)	0(0)	4(2.56)	26(16.67)
41-50	118(12.3)	100(10.4)	67(8.36)	74(9.24)	3(3.33)	11(12.22)	3(4.23)	2(2.82)	6(3.85)	48(30.77)
51-60	155(16.2)	162(16.9)	123(15.36)	154(19.23)	15(16.67)	22(24.44)	11(15.49)	9(12.68)	6(3.85)	29(18.59)
61-70	160(16.7)	107(11.17)	135(16.85)	113(14.11)	11(12.22)	11(12.22)	14(19.72)	9(12.68)	7(4.49)	17(10.9)
71-80	68(7.1)	23(2.4)	58(7.24)	25(3.12)	10(11.11)	2(2.22)	10(14.08)	6(8.45)	4(2.56)	2(1.28)
81-90	5(0.5)	2(0.21)	6(0.75)	2(0.25)	1(1.11)	0(0)	4(5.63)	0(0)	0(0)	0(0)
91-100	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	1(1.41)	0(0)	0(0)	0(0)
Total	535(55.85)	423(44.15)	410(51.19)	391(48.81)	41(45.56)	49(54.44)	45(63.38)	26(36.62)	27(17.31)	129(82.69)

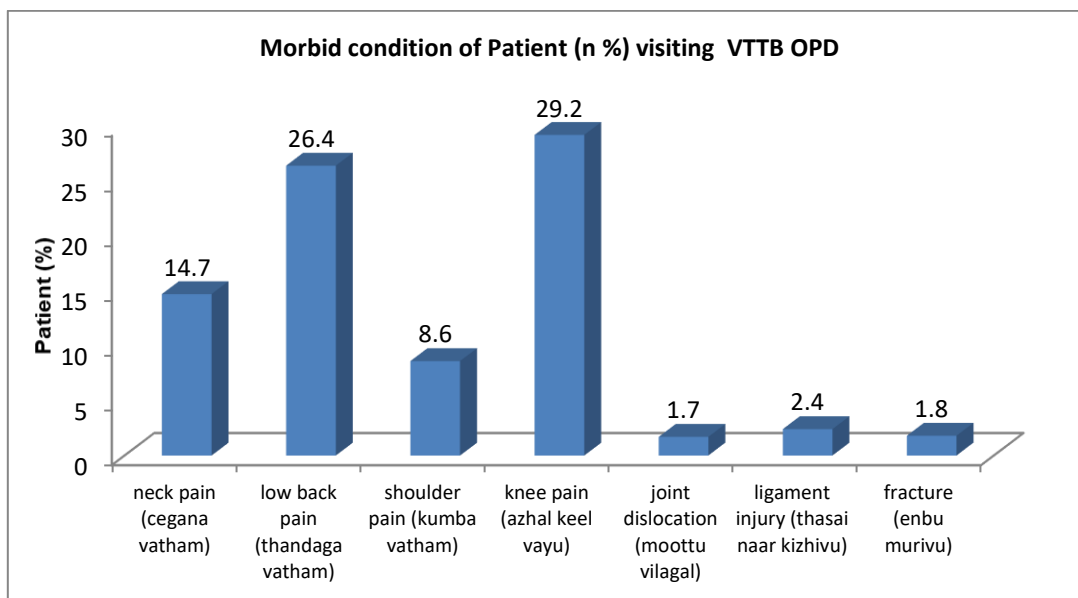


Fig.1: Morbid condition of patients (n=1592) attended VTTB division of SCRI OPD, Chennai during July-December 2019

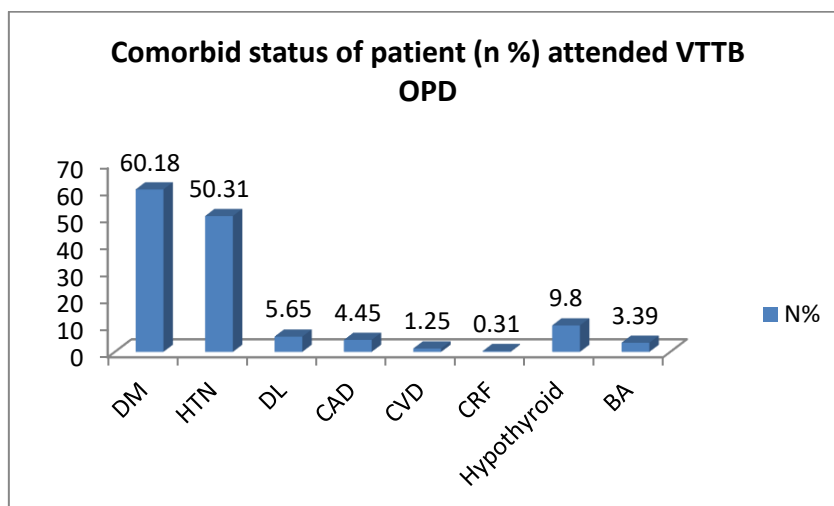


Fig.2: Comorbid profile of the patients (n=1592) attended VTTB division of SCRI OPD, Chennai during July-December 2019

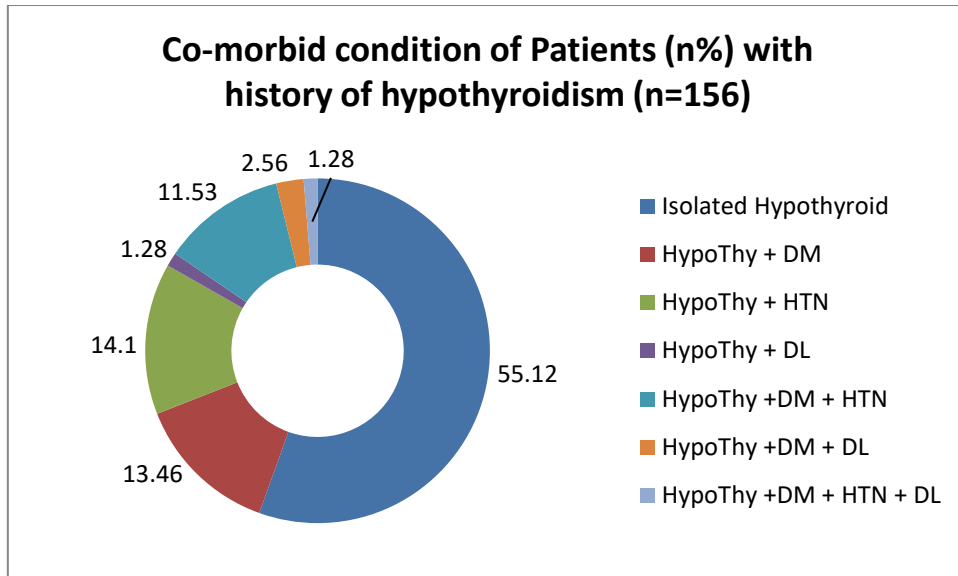


Fig.3: Comorbidity profile of the patients (n=156) with hypothyroid history, attended VTTB division of SCRI OPD, Chennai during July-December 2019

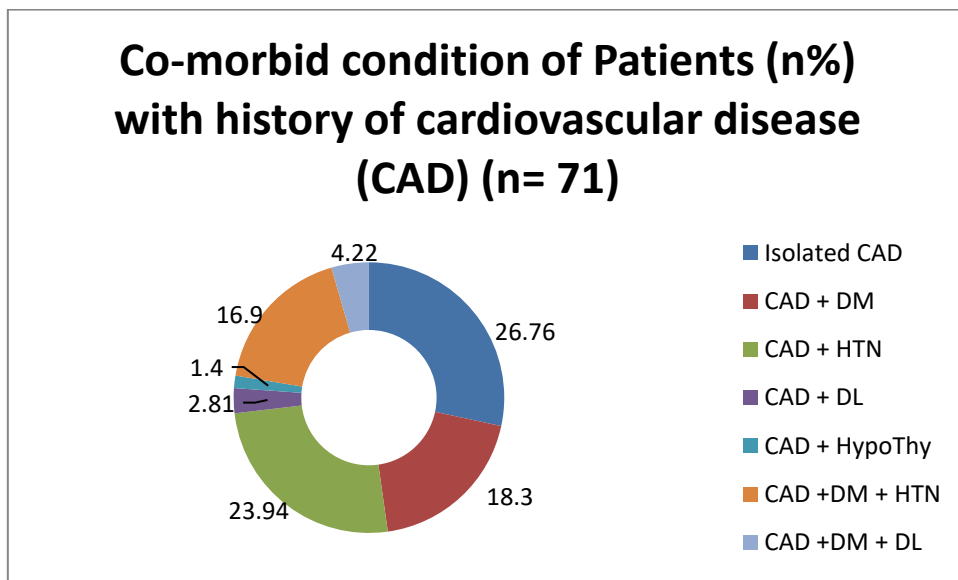


Fig.4: Comorbidity profile of the patients (n=71) with cardiovascular disease (CAD) history, attended VTTB division of SCRI OPD, Chennai during July-December 2019