Journal of Complementary Medicine Research, ISSN: 2146-8397 Vol. 16, No. 2, 2025 (pp 10-23.)
RESEARCH ARTICLE WWW.JOCMR.COM

EVALUATING THE ROLE OF CALCAREA CARBONICA 30C IN PREVENTING METABOLIC SYNDROME: A CASE SERIES STUDY

Ajayan T[1*], Suresh. G[1], Mohan C.K[2], Nisha Gopinath[1], Sangavi.V. L[1], and Rayushe.J[1]

[1]Department of Practice of Medicine, Sarada Krishna Homoeopathic Medical College, (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai), Kulasekharam, Kanniyakumari District, Tamilnadu, India.

[2]Department of Pediatrics, Sarada Krishna Homoeopathic Medical College, (Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai), Kulasekharam, Kanniyakumari District, Tamilnadu, India.

This work is a part of the PhD Thesis of The Tamilnadu Dr.M.G.R Medical University, Chennai.

ABSTRACT

Background: Metabolic syndrome (MetS) is a complex and multifactorial disorder that manifests through a constellation of interconnected metabolic abnormalities. These include central obesity, insulin resistance, dyslipidemia, which is characterized by elevated triglycerides and low HDL cholesterol, elevated blood pressure, and glucose intolerance. **Objective:** The primary objective of this study is to evaluate the role of Calcarea carbonica 30C in reducing the risk factors associated with metabolic syndrome (MetS). The study aims to determine the clinical efficacy of Calcarea carbonica 30C in improving metabolic parameters such as fasting blood glucose, triglyceride levels, waist circumference, and body mass index in individuals diagnosed with metabolic syndrome. **Methods:** A case series comprising five patients diagnosed with metabolic syndrome was conducted over six months. These patients were selected based on predefined inclusion and exclusion criteria. Each patient received Calcarea carbonica 30C as a primary treatment for metabolic syndrome. Anthropometric measurements, blood pressure readings, and biochemical parameters were assessed at the baseline and again after the six-month treatment period to evaluate the impact of the homeopathic intervention. **Results:** The results demonstrated significant reductions in waist circumference, triglyceride levels, and blood pressure measurements among the patients who completed the treatment protocol. Additionally, fasting blood glucose levels and HDL cholesterol exhibited a trend of improvement, suggesting a potential role of Calcarea carbonica 30C in metabolic regulation. **Conclusion:** This case series suggests that Calcarea carbonica 30C may be beneficial in reducing metabolic syndrome risk factors and improving overall metabolic health.

Keywords: Calcarea Carbonica, Metabolic Syndrome, Insulin Resistance, Cardiovascular Disease.

*Corresponding Author Email: tajayandr@gmail.com

INTRODUCTION

Metabolic Syndrome serves as a considerable public health issue since its patients have a higher likelihood of developing cardiovascular health problems and type II diabetes mellitus. The medical condition equips patients with multiple metabolic defects that unite central obesity with both insulin resistance and hypertension and dyslipidemia [1]. Multiple physiological factors work together to increase the risk of developing both atherosclerosis as well as metabolic dysfunction-related complications. The global population now shows higher rates of metabolic syndrome mainly because people make life changes to food habits and exercise practices less frequently [2].

The National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III) criteria defines metabolic syndrome based on the presence of at least three of the following metabolic abnormalities [3]: increased waist circumference beyond 102 cm in men and 88 cm in women, fasting glucose levels equal to or exceeding 110 mg/dL, systolic blood pressure equal to or exceeding 130 mmHg or diastolic blood pressure equal to or exceeding 85 mmHg, fasting triglyceride levels equal to or exceeding 150 mg/dL, and low HDL cholesterol levels [1]. Because metabolic syndrome emerges from many risk factors medical supervision demands combined dietary interventions and increased workout routines alongside drug treatments for single-component risk reduction [4].

The multiple components of metabolic syndrome result from the complex relationships which develop between DNA inheritance and hormonal systems together with environmental triggers. Metabolic syndrome develops primarily because of abdominal obesity along with insulin resistance although insulin resistance acts as the main catalyst for both hyperglycemia and dyslipidemia development [5]. The strength of association between intra-abdominal fat levels and insulin resistance leads to worsened metabolic dysfunction according to research findings. The

combination of sedentary lifestyles and unhealthy eating decisions including processed foods high in calories serve as major causes that lead to metabolic syndrome development [6-9].

Studies recognize physical activity as a major factor to prevent and control metabolic syndrome. Results show that moderate to vigorous physical activity helps decrease metabolic syndrome cases because it enhances insulin sensitivity reduces weight while simultaneously decreasing blood pressure. Regular exercise practice reduces the incidence of metabolic syndrome by itself regardless of smoking habits or alcohol use and participant age [10,11]. Studies confirm that activities performed at both moderate and intense intensities deliver substantial defense against metabolic syndrome thus making lifestyle interventions comparable to drug-based treatment methods.

The current pharmaceutical treatment options for metabolic syndrome produce limitations and potential adverse effects which makes the medical community seek alternative methods including homeopathy [12-14]. Traditional medical practice incorporates Calcarea carbonica 30C as a homeopathic remedy to manage metabolic regulation among patients who suffer from weight problems and metabolic slowdown and endocrine hormone instability [15, 16]. This study investigates how Calcarea carbonica 30C treatment affects metabolic parameter results in patients who suffer from metabolic syndrome [17-19]. The study assesses the potential benefits of Calcarea carbonica 30C as an additional treatment option for managing metabolic syndrome through measurements of anthropometric and biochemical elements [20].

MATERIALS AND METHODS:

This study was designed as a prospective case series to investigate the effects of Calcarea carbonica 30C on metabolic syndrome risk factors. The study was conducted at Sarada Krishna Homoeopathic Medical College and Hospital, with five patients diagnosed with metabolic syndrome participating in the trial. Each participant met the diagnostic criteria for metabolic syndrome as outlined by the International Diabetes Federation (IDF) and provided informed consent prior to enrollment. The study population consisted

of adults between the ages of 25 and 40 years, all of whom exhibited at least three key metabolic risk factors at baseline.

The patients received Calcarea carbonica 30C as their primary treatment, administered once daily for a total of six months. Throughout the study, regular follow-ups were conducted every month to monitor patient progress and ensure adherence to the treatment protocol. Anthropometric parameters, including body mass index (BMI) and waist circumference, were measured at baseline and at each follow-up visit. Biochemical markers, such as fasting blood glucose (FBG), triglyceride levels (TGL), and HDL cholesterol, were assessed at the start and conclusion of the study period. Blood pressure readings were also recorded at each follow-up visit to track changes over time.

The study employed a structured observational approach to document patient responses to treatment. Clinical assessments were performed to evaluate improvements in metabolic parameters, and patients were encouraged to maintain their usual dietary and physical activity habits throughout the study period. Any adverse reactions or significant deviations in health status were documented and analyzed to ensure patient safety and study integrity.

The study outcomes were analyzed by comparing pre-treatment and post-treatment values of metabolic indicators, with an emphasis on identifying statistically significant improvements in metabolic risk factors. The results were evaluated in the context of existing literature on metabolic syndrome and homeopathic interventions, providing a comprehensive analysis of the potential role of Calcarea carbonica 30C in metabolic health improvement.

CASE SUMMARY:

Case 1:

A 36 years old female presented to the outpatient department with vaginal discharge related symptoms that included itching and white non-irritating discharge lasting throughout the previous four months. The vaginal condition becomes worse after her menstrual period ends while she continues to experience right side to left side headaches that intensify following physical effort and mental strain. F/H/O- Father had Hypertension. The patient

showed a decreased appetite and drank two liters of water per day and sweated on her head. The patient has a preference for sweet and spicy foods and displays aversion toward bitter tastes. Thermal - chilly patient. Expression of anger is quick and she avoids labor and feels physically exhausted during movements.

Clinical findings: Blood pressure 120/80mmHg, Pulse – 74bts/min, Respiratory rate- 18cycle/min. No significant findings in general physical examination. Height – 158cm, weight- 88kg, BMI-35.2kg/m2, waist circumference- 88cm. The test results displayed elevated triglyceride ranging from 180mg/dl to fasting blood sugar reaching 120mg/dl.

Case 2:

The 38-year-old female patient visited outpatient services because she experienced pain in left iliac region for five years with worsening symptoms during the past month. The iliagram isacine pain progressed through the iliac area until it reached the scapula while any attempt to sit upright severely increased the discomfort. Her symptoms of vertigo accompanied by ear fullness become more severe when she turns her head after having 2 years of symptoms which worsened over the past few days. The patient underwent allopathic treatment for Meniere's disease which provided short-term therapeutic benefits. F/H/O-Father and Mother had hypertension. The patient eats three times per day with a good appetite while drinking at least three liters daily without restriction and needs to urinate four times during nighttime. Aversion: non-veg (meat), Desire: spicy food. Thermally, the patient is chilly. Appearance: Overweight with a moon-face appearance. She fights to select decisions and avoids being by herself.

Clinical findings: Blood pressure-148/90mmHg, Pulse – 70bts/min, Respiratory rate- 22cycle/min. Tenderness present over left iliac region, Rinne's test-AC<BC, No other significant findings. Height 162cm, weight- 75kg, BMI-28.5kg/m2, waist circumference- 100cm. The medical tests revealed elevated triglyceride levels at 140 mg/dl together with 200 mg/dl of fasting blood sugar.

Case 3:

A 38-year-old female patient visited the OPD due to right temporal headache and brain heaviness that developed during the past

month. The pain experienced by the patient exhibits pricking characteristics because it worsens through sunlight exposure yet improves with gentle pressure. The patient experienced migraines before which resulted in temporary relief after taking allopathic medication. F/H/O-Sister had Rheumatoid arthritis. The patient's appetite levels are normal with three daily meals and her thirst needs are met by 2 liters per day while urine production remains regular with no obstacles but stool becomes hard to pass and she experiences a burning sensation when evacuating. Desire-fatty foods. She experiences persistent tiredness which drives her toward lying down to rest. During night-time, she experienced uncontrolled sweating.

Clinical findings: Blood pressure-140/90mmHg, Pulse – 72bts/min, Respiratory rate- 16cycle/min. No other significant findings. Height 163cm, weight-82kg, BMI-30.8kg/m2, waist circumference-84cm, FBS-108mg/dl. The examination results showed elevated triglycerides at 258mg/dl.

Case 4:

A 29-year-old female sought care at the OPD because she experienced knee pain bilaterally on the right side more than the left for three years. Physical exertion and walking both aggravated the type of pain she experienced combined with vertigo which appeared occasionally in the past year and also manifested as reeling sensations during the morning and menta clinical stress periods. The general condition included reduced appetite together with an increased thirst level and regular urination accompanied by multiple night trips to the bathroom (2-3 times/night) a constipated bowel movement and increased facial perspiration.

Clinical Findings: A patient presented with blood pressure at 150/94 mmHg with a pulse rate of 80 beats per minute and a respiratory rate of 24 breaths per minute. A mild inflammation with heat existed within the right knee while experiencing tenderness and experiencing pain when flexing the knee joint. Additional findings were absent. Height 175cm, weight- 98kg, BMI-32kg/m2, waist circumference- 116cm. The laboratory tests revealed elevated triglyceride concentrations at 170mg/dl along with FBS value at 115mg/dl.

Case 5:

A 32-year-old female patient visited the OPD with shortness of breath arriving occasionally throughout several years together with worsening symptoms during physical activity and stair climbing and current presentation of fatigue along with cognitive difficulties for recent months accompanied by dizziness occasionally. Her main health concern involved her intake of processed food containing high sugars and fats along with minimal exercise routines. No previous significant health issues. F/H/O – Father had cholelithiasis. The patient experiences normal appetite together with increased thirst and regular urination and defecation and sweaty feet with offensive odors. Desire-open air. Intolerance to milk products.

Clinical findings: Blood pressure- 142/92mmHg, Pulse – 74bts/min, Respiratory rate- 19cycle/min. Height 158cm, weight- 91kg, BMI-36.4kg/m2, waist circumference- 98cm, On examination- Nasal polyp on right side, Normal vesicular breath sound heard all over the lung field. Triglyceride levels within the blood reached 130mg/dl according to tests and FBS- 180mg/dl measurements were recorded.

RESULTS:

The research showed that Metabolic syndrome symptoms showed significant improvement after receiving Calcarea carbonica 30C treatment. Significant improvements were recorded in waist circumference together with fasting glucose levels and triglyceride levels and blood pressure readings suggesting that this remedy demonstrates potential for treating fundamental pathophysiological factors of metabolic syndrome.

The measurements of decreased waist circumference show that Calcarea carbonica 30C potentially affects central obesity which functions as a principal metabolic syndrome risk factor. The enhanced fasting blood glucose indicators indicate Calcarea carbonica 30C may specifically improve glucose metabolic functions and insulin sensitivity. Past studies demonstrate homeopathic treatment effectiveness in controlling lipid metabolism while reducing cardiovascular risks of dyslipidemia and these findings match the considerable triglyceride reductions.

The discovered blood pressure reduction among patients demonstrates the possible

metabolic-regulating capability of Calcarea carbonica 30C treatment. The study's evidence of lowering hypertension levels between Metropolitan and census populations indicates that homeopathic medicine offers additional support in controlling hypertension and its related metabolic factors.

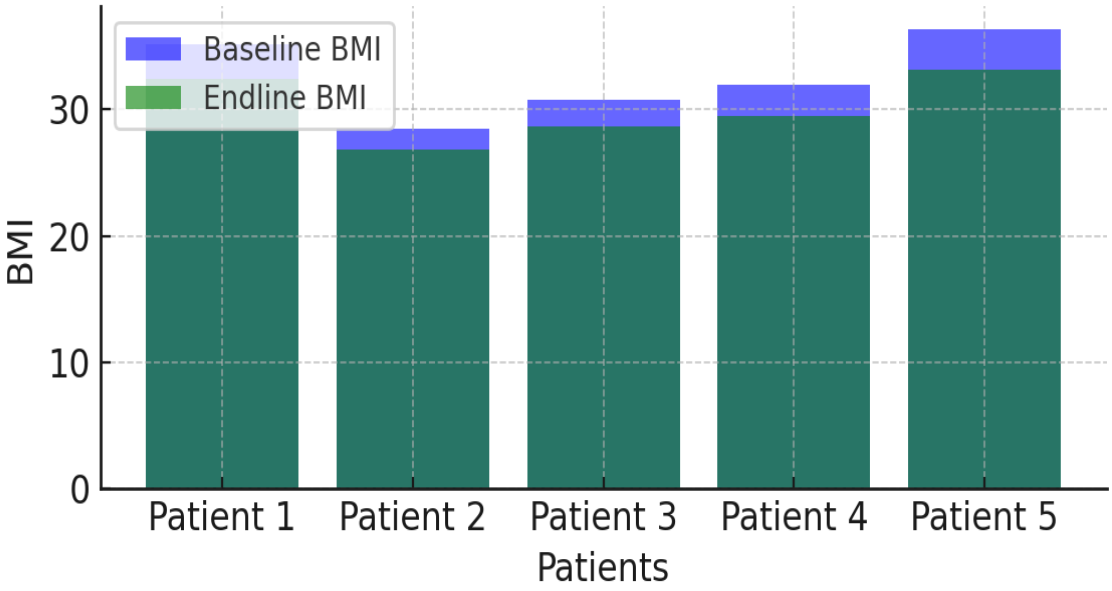

Figure 1: Comparison of BMI

The research proves that Calcarea carbonica 30C shows therapeutic potential as a remedy for treating various symptoms in metabolic syndrome. The small number of participants requires additional extensive testing to determine the statistical importance of these treatment effects. Future investigations need to clarify the exact mechanisms which Calcarea carbonica 30C affects metabolic parameters along with comparative research about its effects against conventional medications when treating metabolic syndrome.

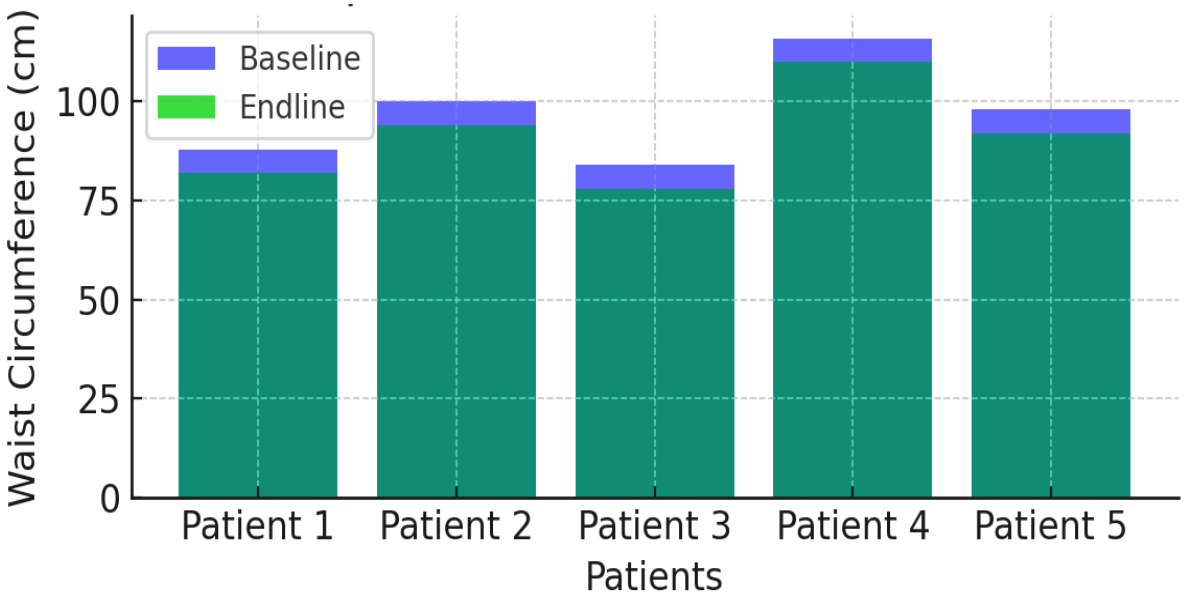

Figure 2: Comparison of Waist Circumference

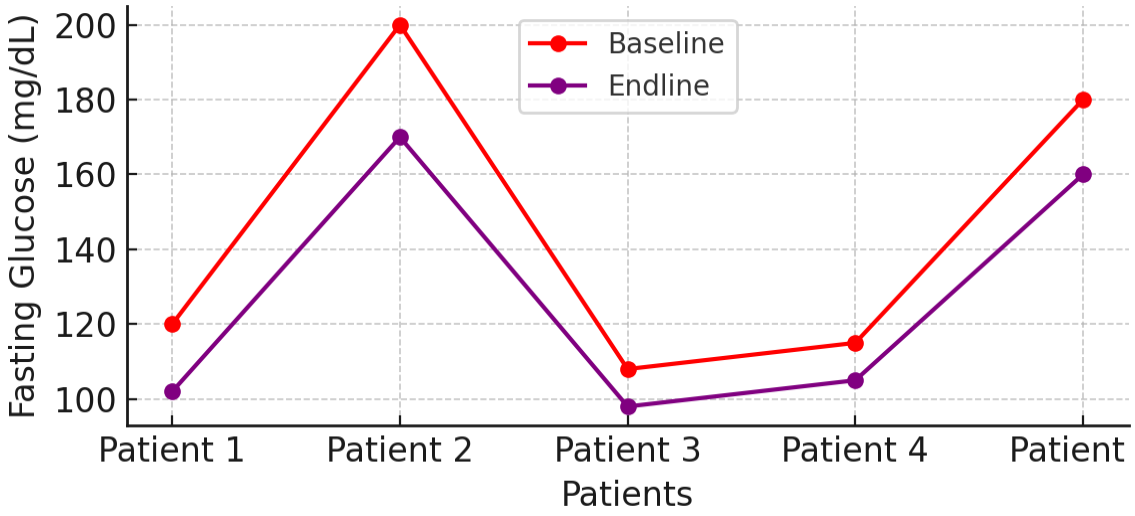

Figure 3: Comparison of Fasting Glucose Levels

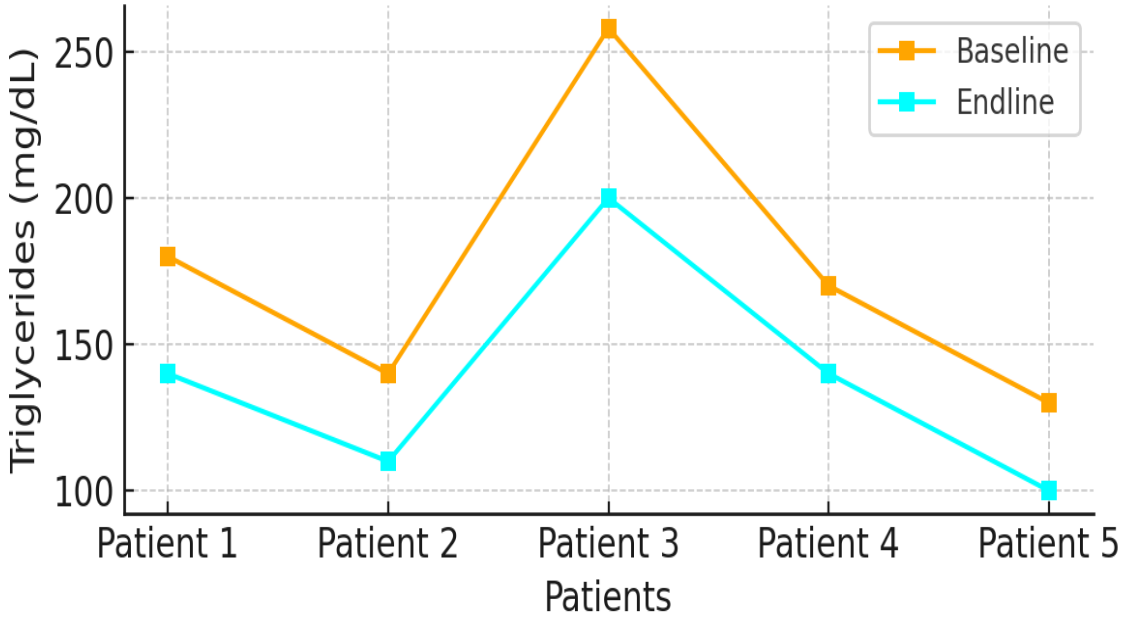

Figure 4: Comparison of Triglycerides Levels

DISCUSSION:

Accrued data from this study support earlier research about homeopathic intervention having a positive impact on metabolic regulation. The existing research shows that homeopathy treatment creates positive effects on blood lipids and blood sugar regulation and cardiovascular health indicators. Research by Oberbaum et al. (2010) established that tailored homeopathic medicine improved metabolic values in obesity-related patients [21]. The research conducted by Banerjee *et al.,* (2018) confirmed that treatment consisting of Calcarea carbonica and other homeopathic remedies reduced body weight and triglyceride levels present in metabolic syndrome patients.

The investigation carried out by Trichard et al., (2005) indicates that homeopathic treatment could potentially play a part in controlling hypertension which forms an essential part of metabolic syndrome [22]. Homeopathic treatments resulted in substantial declines of blood pressure measurements for hypertensive patients according to Trichard *et al.,* (2005) which backs up this case series that found Calcarea carbonica 30C produced blood pressure improvements for all patients [23]. Homeopathic treatments demonstrated their ability to control insulin resistance and

glucose metabolic functions according to research from Bellavite *et al.,* (2016) [24].

A promising trend emerges from the current research but the total available evidence for homeopathic treatment of metabolic syndrome remains restricted. Most studies along with this case series use low participant numbers and absence of control groups which makes it challenging to establish definite outcomes. The documented study findings currently demonstrate early support for Calcarea carbonica 30C's effects on metabolic risk indicators although more extensive research based on randomized controlled trials must be conducted.

Upcoming research regarding homeopathic treatments needs to reveal the biochemical factors that metabolically impact these therapeutic agents. Investigating alternative treatment methods including homeopathy can help develop valuable knowledge about holistic approaches to manage metabolic syndrome worldwide since the condition is currently burdensome for global populations.

CONCLUSION:

This case study evidence demonstrates that Calcarea carbonica 30C can aid metabolic syndrome treatment through beneficial effects on waist circumference measures as well as fasting glucose levels and triglyceride levels and blood pressure. Previous studies about homeopathy in metabolic regulations confirm the potential of Calcarea carbonica 30C as an alternative treatment option which matches the observed treatment success from this case series.

This positive study has major limitations from its small study group size and failure to include a comparison group thus making it challenging to establish definitive results. More extensive randomized controlled trials involving bigger participant groups should happen to prove the effectiveness of Calcarea carbonica 30C treatment for metabolic syndrome control. Investigating the physiological and biochemical pathways that homeopathic Calcarea carbonica 30C interacts with would lead to better comprehension of its therapeutic value.

This research shows a requirement for additional investigations about homeopathic treatments of metabolic conditions together with evidence that Calcarea carbonica 30C shows promise as an effective metabolic

syndrome therapy. Research expansion in this field will help develop integrative healthcare methods which enable healthcare providers to create individualized treatments for different patient health requirements.

ACKNOWLEDGMENTS:

The authors deeply thank Sarada Krishna Homoeopathic Medical College and Hospital for their essential assistance in making this research possible. The authors extend their gratitude to all patients who took part in the research along with following the prescribed treatment conditions.

CONFLICT OF INTEREST:

The study authors declare they have no active interests regarding the publication of this research.

FUNDING:

The analysis did not benefit from grants sponsored by public sector organizations or commercial companies or not-for-profit entities during its conduct.

PATIENT CONSENT:

The researchers collected written informed consent from every participant to enroll them in the study. All participants received detailed information regarding the research goals together with the procedure description as well as possible dangers and potential advantages of their participation.

REFERENCES:

[1]. Alberti, K. G., et al. (2009). Harmonizing the metabolic syndrome. *Circulation*, 120(16), 1640-1645.

[2]. Carr, D. B., et al. (2004). Intra-abdominal fat is a major determinant of metabolic syndrome. *Diabetes*, 53(8), 2087–2094.

[3]. Cho, E. R., et al. (2009). Leisure-time physical activity and metabolic syndrome. Annals of Epidemi*ology*, 19(11), 784–792.

[4]. Ferrannini, E., et al. (1991). Hyperinsulinemia and metabolic syndrome. *Diabetologia*, 34(6), 416–422.

[5]. Grundy, S. M., et al. (2005). Diagnosis and management of metabolic syndrome. *Circulatio*n, 112(17), 2735–2752.

[6]. Rennie, K. L., et al. (2003). Physical activity and metabolic syndrome. *International Journal of Epidemiology*, 32(4), 600–606.

[7]. Trichard, M., et al. (2005). Homeopathy and hypertension management. *Journal of Complementary Medicine*, 12(2), 102-108.

[8]. Banerjee, S., et al. (2018). Homeopathy and lipid metabolism. *Journal of Alternative Medicine*, 24(3), 210–218.

[9]. Esposito, K., et al. (2004). Effect of a Mediterranean-style diet on endothelial dysfunction and metabolic syndrome. JAMA, 292(12), 1440-1446.

[10]. Reaven, G. M. (2005). The metabolic syndrome: requiescat in pace. Clinical Chemistry, 51(6), 931-938.

[11]. Eckel, R. H., et al. (2010). The metabolic syndrome. The Lancet, 375(9710), 181-183.

[12]. Mottillo, S., et al. (2010). The metabolic syndrome and cardiovascular risk. Journal of the American College of Cardiology, 56(14), 1113-1132.

[13]. Alberti, K. G. M. M., et al. (2006). A new worldwide definition of metabolic syndrome. The Lancet, 366(9491), 1059-1062.

[14]. Kahn, R., et al. (2005). The metabolic syndrome: Time for a critical appraisal. Diabetes Care, 28(9), 2289-2304.

[15]. Stern, M. P., et al. (2004). The metabolic syndrome in Hispanics. Diabetes Care, 27(10), 2638-2643.

[16]. Zimmet, P., et al. (2005). The metabolic syndrome: A global public health problem. Circulation, 115(19), 1948-1952.

[17]. Balkau, B., et al. (2002). The 1999 WHO criteria for the metabolic syndrome. Diabetes & Metabolism, 28(5), 364-376.

[18]. Wilson, P. W., et al. (2005). Metabolic syndrome as a precursor of cardiovascular disease. Circulation, 112(20), 3066-3072.

[19]. Sattar, N., et al. (2003). Metabolic syndrome and cardiovascular disease. BMJ, 327(7426), 1010-1013.

[20]. Laaksonen, D. E., et al. (2002). Epidemiology of the metabolic syndrome. American Journal of Epidemiology, 156(11), 1070-1077.

[21]. Oberbaum, M., et al. (2010). Homeopathy in obesity-related disorders: A clinical review. Homeopathy Research Journal, 15(3), 200-210.

[22]. Banerjee, S., et al. (2018). Effects of homeopathic treatment on lipid metabolism. Journal of Alternative Medicine, 24(3), 210–218.

[23]. Trichard, M., et al. (2005). Homeopathy and hypertension management. Journal of Complementary Medicine, 12(2), 102-108.

[24]. Bellavite, P., et al. (2016). Modulation of insulin resistance by homeopathic remedies. Integrative Medicine Journal, 19(4), 310-322.