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Review of Pavala Silasathu Parpam for the Management of the Type 2 Diabetes Mellitus (Madhumegam) – A Literature Review

Theenathayalan. S[1], Kalaivani. V[2], Menaka. R[3]

[1] PG Scholar, Department of PG Pothu Maruthuvam, Government Siddha Medical College & Hospital, Chennai, Tamil Nadu, India.
[2] PG Scholar, Department of PG Noi Naadal, Government Siddha Medical College & Hospital, Chennai, Tamil Nadu, India.
[3] Lecturer Grade II, Department of PG Pothu Maruthuvam, Government Siddha Medical College & Hospital, Chennai, Tamil Nadu, India.
E-mail: drtheena47@gmail.com

ABSTRACT

Background: Type 2 Diabetes Mellitus (Madhumegam) is a chronic metabolic disorder explained in Siddha medicine as Neerizhivu Noi caused by derangement of Kabam and Pitham. Conventional therapies provide glycemic control but may cause adverse effects. Siddha formulations such as Pavala Silasathu Parpam offer holistic management with minimal side effects.

Aim: To review the pharmacological and therapeutic efficacy of Pavala Silasathu Parpam in the management of Type 2 Diabetes Mellitus.

Methods: Relevant information was collected from classical Siddha literatures and scientific databases. Articles discussing the formulation, pharmacological actions, and antidiabetic potential of Pavala Silasathu Parpam were critically reviewed and analyzed.

Results: Pavala Silasathu Parpam exhibits Pitha-Kapha pacifying, antioxidant, and hypoglycemic actions, enhancing insulin sensitivity and metabolic balance.

Conclusion: Literature supports the efficacy of Pavala Silasathu Parpam in Madhumegam management. Further clinical validation is needed to confirm its safety and standardization.

Keywords: Pavala Silasathu Parpam, Madhumegam, Type 2 Diabetes Mellitus, Siddha medicine.

INTRODUCTION

Siddha medicine, an ancient Indian traditional practice, incorporates a variety of marine-derived substances, including fish, sponges, corals, shells, and others, into its therapeutic formulations. Pavala Silasathu Parpam (PSP) was a potential marine-derived Siddha medicine employed in the treatment of diabetes mellitus, leukoderma, tuberculosis, respiratory infections, and certain sexually transmitted diseases. The Siddha system of medicine asserts that alterations in the Vaadha, Pitha, and Kapha humours lead to diseases. Siddha Literature posits that Diabetes mellitus (Madhumegam) signifies a transformation of Pitha humour, subsequently affecting both Vaadha and Kapha humour. Diabetes mellitus was characterized by fluctuating blood glucose levels resulting from dysfunction in insulin activity, production, or both. Long-term uncontrolled blood sugar can hurt, stop working, and even kill different organs, like the heart, kidneys, eyes, nerves, and blood vessels. [1]. There are different kinds of diabetes mellitus, such as Type 1, Type 2, MODY, gestational diabetes, and others. Type 2 diabetes frequently affects older adults due to insulin resistance and lifestyle factors, whereas Type 1 diabetes generally impacts younger individuals due to insulin deficiency. The primary causes, symptoms, and treatment strategies of these distinct categories vary. [2]. Diabetes was a big health problem that killed more people than anything else in the world. According to the World Health Organization (WHO), the number of people with diabetes rose from 200 million in 1990 to 830 million in 2022. The most growth happened in countries with low and middle incomes. It's scary that in 2022, more than half of people with diabetes weren't getting the help they needed. Diabetes can cause very bad things to happen, such as blindness, kidney failure, heart failure, and amputations. In 2021, more than 2 million people died, and high blood sugar was to blame for 11% of those deaths. With the right diet, exercise, medications, and regular checkups, diabetic complications could be put off or even avoided [3].

In 2019, it was thought that 77 million people in India had diabetes. By 2045, that number was expected to go up to over 134 million. Around 57% of these people still don't know what their illness is. In cities, the rate is between 10.9% and 14.2%, and in rural India, it is between 3.0% and 7.8% among people 20 and older, with a much higher rate among people 50 and older [4].

The percentage of people with diabetes in India rose from 7.1% in 2009 to 8.9% in 2019. People thought that 25.2 million adults had impaired glucose tolerance (IGT) at the time. That number was expected to reach 35.7 million by 2045. China has the most people with diabetes in the world, and India

has the second most. India has 77 million people who have diabetes. More than 62 million people in India had diabetes, and it was quickly becoming a possible epidemic. [5]. This review paper looked at the literature on PSP that was mentioned in Siddha texts.

MATERIALS & METHODS:

Pavala Silasathu Parpam was a siddha herbo - mineral formulation comprising of,

S.NO	INGREDIENTS	SCIENTIFIC NAME	PHARMACOLOGICAL ACTIVITY
1	Purified Pavalam	Corallium rubrum	Anti-diabetic activity [7]
2	Purified Karpoora silasathu	Gypsum	Antidiabetic activity [8]
3	Pirandai	Cissus quadrangularis. Lin	Antidiabetic activity [9]

The above said references and the research works done on the individual ingredients of Pavala Silasathu Parpam justify its beneficial effect in Madhumegam (Type II Diabetes Mellitus).[6]

INGREDIENTS

- Purified Pavalam - 1 palam (35 grams)
- Purified Karpoora Silasathu - 1 palam (35 grams)
- Pirandai Saaru - Required quantity

Dosage -1 Kundri (130 mg) twice a day

Adjuvant - Nei

Duration - 90 days

STANDARD OPERATIVE PROCEDURE SOURCE OF RAW DRUGS

They got the raw drugs they needed from a well-known drug store in the area. The Botanist and Gunapadam Department at Govt Siddha Medical College in Chennai said that the raw drugs used in the study were real. There was a certificate inside.

PURIFICATION OF RAW DRUGS

The Coral was soaked in lemon juice for 24 hours and Gypsum was grinded with aloe juice for 3 hours and sundried.

PREPARATION

We ground up 35 grams of purified Pavalam and 35 grams of purified Karpoora Silasathu with pirandai juice for 12 hours (4 samam) and made villai. The above villai was dried in the sun. The dried villai was put in an agal, which was then sealed with clay cloth and a lid that fit well. The sealed agal went through muzhu pudam. The pudam was opened when it cooled down, the parpam was ground into a powder, and the powder was put into bottles.

DRUG STORAGE

The medicine was stored in a container that was clean, dry, and airtight, and it was given out in a container that had a label. .

CONCLUSION

Preclinical studies have investigated PSP for its anti-diabetic, anti-hyperlipidemic, and antioxidant effects in Streptozotocin-induced diabetic rats. Following this, preclinical studies of pavalam for hemostatic activity were performed in Swiss albino mice. The OECD guidelines said that the drug protected the liver in short-term situations and was safe to take by mouth at a dose of 4000 mg/kg. The reports indicated that the biochemical and hematological parameters were within normal ranges. [8]. Karpoora silasathu possesses antidiabetic properties. 10. The ethanolic extract of Cissus quadrangularis (L.) leaves demonstrates anti-hyperglycaemic activity in alloxan-induced diabetic rats. [9] Research indicates that three components possess antidiabetic properties; however, while current literature presents promising results, additional studies are necessary to confirm the safety and efficacy of PSP for antidiabetic activity. In vivo studies were imperative to validate the potential benefits.

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