World Journal of Current Medical and Pharmaceutical Research
Content available at www.wjcmpr.com ISSN: 2582-0222

VITHUVAGAI CHOORANAM AND ITS ROLE IN SIDDHA MANAGEMENT OF MALE INFERTILITY: A COMPREHENSIVE REVIEW

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Article History

Received on: 19-06-2025
Revised on: 09-07-2025
Accepted on: 24-08-2025

Abstract

Infertility is a growing global health concern, with male factors contributing to approximately 20–40% of cases. In the Siddha system of medicine, male infertility is referred to as Aan Maladu and is traditionally managed through formulations aimed at enhancing reproductive vitality. One such classical polyherbal formulation is Vithuvagai Chooranam (VVC), widely used to improve semen quality, increase virility, and support male reproductive health. This review explores both classical Siddha references and modern pharmacological evidence related to the efficacy of VVC. It comprises ten ingredients, including Vigna mungo, Sesamum indicum, Mucuna pruriens, Hygrophila auriculata, Curculigo orchioides, and Asparagus racemosus. These herbs are rich in bioactive compounds known for their spermatogenic, aphrodisiac, antioxidant, anti-inflammatory, and immunomodulatory properties. Scientific studies support the role of these herbs in enhancing sperm count, motility, testosterone levels, and overall reproductive function. The formulation aligns with Siddha concepts of Udal thathukkal balance and Vali-Azhal-Iyyam regulation. Given its broad pharmacological profile and traditional utility, VVC represents a promising and safe natural alternative for managing male infertility. However, further experimental and clinical validation is essential to substantiate its therapeutic claims and integrate it into evidence-based reproductive healthcare.

Keywords: Vithuvagai Chooranam, Siddha Medicine, Aan Maladu,Polyherbal Formulation, Traditional Medicine, Reproductive Health

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DOI: https://doi.org/10.37022/wjcmpr.v6i2.369

Introduction

Infertility is a significant global health concern, affecting approximately 8–12% of couples worldwide, with male factors contributing to nearly 20–40% of cases [1,2]. The World Health Organization defines infertility as the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected intercourse. In the Indian context, nearly 10–15% of couples are infertile, and male infertility is a common underlying cause [3,4]. In the Siddha system of medicine-one of the oldest traditional medical systems rooted in Tamil culture-male infertility is described under terms like *Aanmaladu*, *Veeriyanaashtam*, *Thathunattam*, and *Aanmaikuraipaadu*. Classical Siddha texts attribute this condition to imbalances in the three vital humors (*Vali*, *Azhal*, *Iyyam*) and disturbances in the *Udal thathukkal* (seven body constituents). Saint Yugi Muni, a renowned Siddha sage, has described specific symptoms of male infertility, including lack of sweetness in semen, buoyancy in water, absence of virility, and frothy micturition.Siddha literature places great emphasis on dietary habits, lifestyle factors, and humor derangements in the pathogenesis of male infertility. The formation of *Sukilam* (semen) is considered the culmination of a process that begins with the ingestion of food, leading to sequential transformation through the seven *thathukkal*. Disruption at any stage can impair semen quality, thus affecting fertility [5-7].

In the Siddha system, many formulations are composed of herbal ingredients. One such polyherbal formulation is Vithuvagai Chooranam (VVC), traditionally indicated for conditions such as *Neerchurukku* (reduced urine output), *Thathuviruthi* (sperm enhancement), and *Vellai* (leucorrhea) [8]. VVC is widely used in the management of *Aan Maladu* (male infertility). This formulation contains potent ingredients such as Ulundhu maavu, Ellu podi, Poonaikaali vithu podi, Neermulli vithu podi, Nilapanaikizhangu podi, Thaneervittan kizhangu chooranam, Chukku podi, Milagu podi, Thippili podi, and white sugar.These ingredients are believed to improve the

quality and function of semen through their rejuvenating, aphrodisiac, and nervine tonic properties. Modern pharmacological studies support the efficacy of key ingredients such as *Poonaikaali vithu podi, Neermulli vithu podi, Nilapanaikizhangu podi*, and *Thaneervittan kizhangu chooranam* in enhancing spermatogenesis and sperm motility.This review explores the classical Siddha concepts and pharmacological actions of Vithuvagai Choornam (VVC), aiming to highlight its significance as a promising therapeutic agent for male infertility. By integrating traditional insights and contemporary evidence, this paper underlines the need for further scientific validation of Siddha formulations in addressing reproductive health issues.

Materials and Methods

The data was collected through an extensive review of various electronic databases, including Google Scholar, PubMed, Wiley, Science Direct, ACS Publications, Springer Link, Semantic Scholar, and Embase, using keywords such as "*Vigna mungo,*" "*Sesamum indicum,*" "*Mucuna pruriens,*" "*Hygrophila auriculate,*" "*Curculigo orchioides,*" "*Asparagus racemosus,*" "*Zingiber officinalis*", "*Piper nigrum*", "*Piper longum*", "Pharmacological activity," "Antioxidant," "Spermatogenic," "Antidepressant," "Anti-inflammatory," along with their combinations. Special emphasis was placed on keywords related to pharmacological actions, ethnopharmacology, traditional medicine, Siddha, and herbal medicine. The data collected primarily covered the period from to 2024and the analysis took about six months.

All the articles were included based on their relevance to the ingredients of Vithu Vaagai Chooranam and its therapeutic indications, the availability of full-text articles, and the study design, such as clinical trials, mechanistic studies, and reviews. Articles were excluded if they were duplicates, not relevant to the subject, or lacked adequate methodological details. Studies that did not focus on treatments or not directly applicable to the topic were also excluded. The selection process involved several steps: screening titles and abstracts, reviewing full texts, and applying inclusion and exclusion criteria to ensure only relevant and high-quality studies were included. This process ensured that the studies provided valuable information on the role of Vithu Vaagai Chooranam in improving the sperm quality and treating male infertility.

Ingredients of *Vithuvagai Chooranam*

The ingredients of the VVC are listed in Table 1

Table1: The ingredients of the VVC

S. No	The vernacular name of the ingredients	Botanical name	Quantity
1.	Ulundhu maavu	*Vigna mungo*	35 g
2.	Ellu podi	*Sesamum indicum*	35 g
3.	Poonaikaali vithu podi	*Mucuna pruriens*	35 g
4.	Neermulli vithu podi	*Hygrophila auriculata*	35 g
5.	Nilapanaikizhangu podi	*Curculigo orchioides*	35 g
6.	Thaneervitaan kizhangu chooranam	*Asparagus racemosus*	35 g
7.	Chukku podi	*Zingiber offcinale*	17.5 g
8.	Milagu podi	*Piper nigrum*	17.5 g
9.	Thippili podi	*Piper longum*	17.5 g
10.	White sugar	*Saccharum officinarum* L	262.5 g

Dosage: *Mooviral alavu* - (800-1000mg) [BD]
Adjuvant: Honey/Ghee/Milk/Tender coconut

Results and Discussion

A summary of detailed Siddha literature on VVC, as noted in Table 2 [9]

Table 2: Siddha Literature References for VVC

S. No	Ingredients	Part used	Taste	Potency	Division	Action
1.	*Vigna mungo*	Seed	Sweet	Cold	Sweet (140)	Spermatogenic, Aphrodisiac Anti-inflammatory
2.	*Sesamum indicum*	Seed	Sweet	Cold	Sweet (159)	Spermatogenic, Aphrodisiac Anti-oxidant Anti-inflammatory
3.	*Mucuna pruriens*	Seed	Astringent	Cold	Sweet (707)	Spermatogenic, Aphrodisiac, Antioxidant Anti-anxiety
4.	*Hygrophila auriculata*	Seed	Sweet, Bitter	Cold	Sweet (587)	Spermatogenic, Aphrodisiac, Antioxidant, Hepatoprotective
5.	*Curculigo orchioides*	Rhizome	Sweet	Cold	Sweet (576)	Spermatogenic, Aphrodisiac, Antioxidant Hepato protective, Immunostimulant, Anti-diabetic
6.	*Asparagus*	Rhizome	Sweet	Cold	Sweet (499)	Spermatogenic, Aphrodisiac, Antioxidant,

	racemosus					Hepatoprotective, Immunostimulant, Anti-diabetic
7.	*Zingiber officinale*	Rhizome	Hot	Pungent	Bitter	Spermatogenic, Antioxidant Immunomodulator
8.	*Piper nigrum*	Fruit	Bitter, Pungent	Hot	Pungent	Anti-inflammatory, Anti-oxidant, Anti-diabetic
9.	*Piper longum*	Fruit	Sweet	Hot	Sweet	Anti- inflammatory, Antioxidant, Anti-diabetic
10.	*Sacchrum officinarum* Linn		Sweet	Cold	Sweet (238)	Antiseptic Demulcent

Table 3: Phytochemical constituents of Vithuvagai Chooranam

S. No	Botanical Name	Phytochemical constituents
1.	*Vigna mungo*	Vitexin, Isovitexin, Genistein, Soyasaponins, β-Sitosterol
2.	*Sesamum indicum*	Sesamin, Sesamol, Phytosterols (β-Sitosterol), Tocopherol
3.	*Mucuna pruriens*	L-DOPA, Nicotine, β-Sitosterol, Mucunine
4.	*Hygrophila auriculata*	Alkaloids, Flavonoids, Sterols, Lupeol
5.	*Curculigo orchioides*	Curculigoside, Saponins, Alkaloids, Phenols
6.	*Asparagus racemosus*	Shatavarin IV, Saponins, Isoflavones, Rutin
7.	*Zingiber offcinale*	Gingerol, Shogaol, Zingerone, Flavonoids
8.	*Piper nigrum*	Piperine, Flavonoids, Alkaloids
9.	*Piper longum*	Piperlongumine, Piperine, Sesamin
10.	*Saccharum officinarum*	Policosanols, Flavonoids, Phenolic acids

Table 4: Ingredients of Vithuvagai Chooranam and Their Pharmacological Activities

S. No	Tamil Name	Botanical Name	Pharmacological Activity
1.	Ulundhu maavu	*Vigna mungo*	Anti-oxidant, immunomodulatory, Anti-inflammatory, Spermatogenic effect and aphrodisiac activity [10].
2.	Ellu podi	*Sesamum indicum*	Anti-inflammatory, Antioxidant, Spermatogenic activity [11,12]
3.	Poonaikaali vithu podi	*Mucuna pruriens*	Aphrodisiac, Anti-inflammatory, Anti-oxidant [13]
4.	Neermulli vithupodi	*Hygrophila auriculata*	*Anti-oxidant, Aphrodisiac, Anti-Inflammatory [14]*
5.	Nilapanaikizhangu podi	*Curculigo orchioides*	Immunomodulatory, Antioxidant activity, Antidepressant, Anti-stress Spermatogenic [15,16]
6.	Thaneervitaan kizhangu	*Asparagus racemosus*	Adaptogenic, Immunomodulatory, Antioxidant, Antidepressant, Anti-inflammatory, Aphrodisiac, Anti-stress [17]
7.	Chukku podi	*Zingiber offcinale*	Anti-Inflammatory Antioxidant [18]
8.	Milagu podi	*Piper nigrum*	Antioxidant activity, Anti-inflammatory activity, Antidepressant, Immunomodulatory [19]
9.	Thippili podi	*Piper longum*	Anti-inflammatory, Immunomodulatory, Antioxidant, Antidepressant [20]
10.	White sugar	*Sacchrum officinarum Linn*	

V. mungo seeds contain flavonoids, saponins and sterols that exert anti-inflammatory andantioxidant effects, and Siddha texts classically consider black gram an aphrodisiac and sperm-stimulant. Indeed, one review notes that *V. mungo* exerts pharmacological activities including antioxidant, anti-inflammatory and spermatogenic/aphrodisiac effect [21]. More generally, seeds of the genus *Vigna* (to which black gram belongs) are noted to have antioxidant properties and are used in folk medicine to treat hormonal disorders among other ailments. *S. indicum* is a rich source of antioxidants (sesamol,

sesamin) and fatty acids. Clinical and animal studies show sesame supplementation improves semen quality. For example, an Iranian trial found infertile men given sesame showed significantly higher sperm count and motility after treatment [22]. In rats, an ethanolic sesame extract raised testosterone and improved sperm parameters, likely via its antioxidant action [23]. Sesame oil and lignans are also well-known anti-inflammatory agents, further helping protect sperm from damage. Mucuna pruriens is a commonly used drug. Modern trials confirm its spermatogenic and hormone-balancing effects. In one clinical study on infertile men, Mucuna seed extract significantly boosted serum testosterone and LH while reducing FSH/ prolactin, and fully restored sperm count and motility to near-normal levels [24].

These changes likely relate to its L-DOPA content, which elevates dopamine and stimulates gonadotropin release. Mucuna also has strong antioxidant activity: it scavenges free radicals and inhibits lipid peroxidation in vitro [25]. Moreover, animal studies show Mucuna reduces stress-induced dysfunction – it has anti-anxiety and adaptogenic properties that indirectly support fertility. *Hygrophila* (Neermulli) is traditionally used for urinary and sexual disorders. A recent animal study showed that H. auriculata seed extract completely reversed chemically-induced testicular damage: it restored sperm count, motility and testosterone levels, and normalized antioxidant enzymes in testicular tissue. The authors concluded that the herb has androgenic (testosterone-raising) and antioxidant properties that improve male infertility without toxicity [26]. Another study of Hygrophila root extract found significant hepatoprotective and antioxidant effects (it prevented CCl_4-induced liver damage by boosting SOD, GSH and catalase)[27]. Curculigo (Nilapanai) is often called "Kali Musli" and is famed as a male tonic. Lab studies show *C. orchioides* protects sperm production under stress: for example, in mice exposed to heat stress, Curculigo rhizome extract *significantly increased* the number of spermatogenic cells and raised testosterone compared to untreated controls [28]. Shatavari (*Asparagus racemosus*) is a well-known Ayurvedic adaptogen. Its root is rich in steroidal saponins and antioxidants. Studies confirm strong antioxidant and liver-protective actions. Acharya et al. (2012) showed that Asparagus root extracts markedly prevented CCl_4-induced liver toxicity by preventing lipid peroxidation and elevating antioxidant enzymes [29]. Immunologically, Shatavari is documented to be a potent immunomodulator: it stimulates both cellular and humoral immunity. In an animal model, Asparagus extract increased T-cell activation and upregulated Th1/Th2 cytokines (IL-2, IFN-γ, IL-4), indicating broad immune boosting [30]. *Zingiber officinale* is known to stimulate digestion and circulation. Modern trials show ginger has potentantioxidant and sperm-boosting effects. For example, ginger extract improved sperm DNA integrity in infertile men, reducing DNA fragmentation [31]. Animal studies likewise find ginger significantly increases sperm count, motility and serum testosterone while lowering malondialdehyde (a marker of oxidative stress). Their active alkaloid piperine and related compounds enhance nutrient absorption and circulation. Modern research confirms they possess anti-inflammatory, antioxidant and immunomodulatory activities. Black pepper extract has been shown to inhibit pro-inflammatory pathways and boost immune responses in animal models. For instance, a comprehensive review notes *P. nigrum* extracts are studied for "anti-inflammatory, immunomodulatory, antioxidant" properties [32]. Long pepper similarly is reported to be anti-inflammatory, antioxidant and neuroprotective. *P. longum* highlights its ability to reduce inflammation and oxidative damage in a gastric ulcer model [33].

Conclusion

Vithuvagai Chooranam is a classical Siddha polyherbal formulation traditionally used for male infertility. Its ingredients possess spermatogenic, aphrodisiac, antioxidant, and anti-inflammatory properties. Both Siddha literature and modern research support its role in improving sperm quality and reproductive function. Thus, VVC shows promise as a safe and effective remedy for *Aan Maladu*, warranting further scientific validation.

Acknowledgement

The authors acknowledge the support and facilities provided by the Govt. Siddha Medical College, Chennai for their support in this study.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article

Ethical Approval

As the present study is a Literature review, it does not involve the use of human or animal subjects and therefore, ethical clearance is not applicable.

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Author Contribution

Conceptualization: Data collection and compilation: Manuscript Writing:; Proofreading and editing: .

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