

Efficacy of *Mucuna pruriens* (*Kapikacchu Choorna*) in the Management of Psychogenic Erectile Dysfunction (*Manasika Klaibya*): A Comprehensive Clinical and Neuroendocrinological Evaluation.

Dr. Rinjin G Krishna¹, Prof (Dr.) Suhas Kumar Shetty², Prof (Dr.) Sumith Kumar M^{3*}

1. Associate Professor, Department of Kayachikitsa, K. J. Institute of Ayurveda & Research, Savli, Vadodara, Gujarat, INDIA.
2. Principal & Medical Director, Shri B M Kankanawadi Ayurveda Mahavidyalaya, Belagavi, Karnataka, India.
3. Professor & HOD, Department of Samhita, Siddhanta & Sanskrit, P P Savani Ayurveda college and Hospital, Surat, Gujarat, INDIA.

* Corresponding Author: Dr. Sumith Kumar M, Ph - +919995635703, Email : drsumith@gmail.com

Abstract

Background: Psychogenic erectile dysfunction is a well-recognised concept of Manasika Klaibya in Ayurveda and is a powerful psychophysiological hazard. It carries with it great psychological distress including performance anxiety, constant worry, guilt, depression and a paralysing fear of sexual failure. Such psychological barriers can be deadly to established marital and interpersonal relationships. It is commonly acknowledged that healthy sexual functioning is paramount to satisfying the procreational, recreational, and relational aspects of human life .

Objective: The primary objective of this clinical assessment was to evaluate the therapeutic efficacy of Kapikacchu choorna (*Mucuna pruriens* seed powder) as a non-pharmacological botanical intervention in the management of Manasika klaibya (Erectile dysfunction). **Methods:** We performed an open-label, interventional clinical trial. A total of 42 patients diagnosed as psychogenic erectile dysfunction were selected from the outpatient and inpatient department of Manasa Roga and Vajikarana. The trial was completed by thirty participants after exclusions and dropouts. Subjects were given 4 grams of Kapikacchu choorna orally thrice daily after meals with warm water for a period of one month. Clinical endpoints were assessed by a standardised sexual health scoring system . Statistical analysis was performed to quantify the outcomes including standard deviation (S.D.), standard error (S.E.) and paired t-tests. **Results:** Post-intervention analysis showed significant improvements in several psychosexual domains. Patients reported improvement in Sexual Desire (26.67%; $p < 0.001$), Rigidity (50.33%; $p < 0.001$), Erection (27.04%; $p < 0.001$), Orgasm (11.52%; $p < 0.01$) and Duration of Coitus (26.98%; $p < 0.01$). There were no statistically significant changes in Ejaculation (2.28%; $p > 0.05$), Performance Anxiety (10.83%; $p > 0.05$), Post Coital Exhaustion (7.63%; $p > 0.05$) and Frequency of Coitus (13.82%; $p > 0.05$). The seminal analysis showed statistically significant improvements in slow linear progressive sperm ($\uparrow 34.74\%$, $p < 0.001$) and a decrease in immotile sperm ($\downarrow 32.19\%$, $p < 0.05$). **Conclusion:** The results are an empirical proof of clinical efficacy of Kapikacchu choorna as a potent vajikara agent (aphrodisiac). It was able to counteract psychosexual inhibitors and improve erectile rigidity and some seminal parameters, thus establishing it as a viable therapeutic modality for Manasika Klaibya.

Keywords: Manasika Klaibya, Erectile Dysfunction, *Mucuna pruriens*, Kapikacchu choorna, Vajikarana therapy, Psychogenic Impotence, L-DOPA (L-3,4-dihydroxyphenylalanine), Dopaminergic Pathways, Vrishya properties.

How to cite this article: Krishna RG, Shetty SK, Sumith Kumar M. Efficacy of *Mucuna pruriens* (*Kapikacchu Choorna*) in the Management of Psychogenic Erectile Dysfunction (*Manasika Klaibya*): A Comprehensive Clinical and Neuroendocrinological Evaluation. Int J Drug Deliv Technol. 2026;16(60s):738-745. DOI: 10.25258/ijddt.16.60s.84

Source of support: Nil.

Conflict of interest: None

1. Introduction

1.1 The Psychophysiology of Human Sexuality

Human sexuality is a complex and real psychophysiological response involving the natural cognitive and biological ability to experience, process and respond to erotic stimuli¹. The coordination of healthy sexual function is important not only for the perpetuation of the species, but also

for the fulfilment of the procreative, recreational, and relational components of human life². It is a basic pillar to express the gender identity and to reinforce the emotional and psychological link with a primary partner³.

Sexual behaviour is considered abnormal when it results in self-injury, does not involve stimulation of primary sex organs, is pathologically connected with

feelings of fear or guilt, or cannot be directed toward a consensual partner⁴. The psychological consequences of impaired sexual capacity range from trivial disappointment to disastrous emotional collapse, depending on the individual psychiatric history and environmental circumstances⁵. Therefore, timely and effective treatment of sexual dysfunction is a clinical imperative. While sexual dysfunction does not directly reduce life expectancy, it has a significant influence on the holistic health and quality of life of a patient.

1.2 Etiology of Psychogenic Erectile Dysfunction

Sexual dysfunctions are generally aetiologically classified into disorders of pleasure facilitation or pleasure inhibition. Pleasure inhibition, as impairment or total suppression of sexual desire, arousal or orgasm, is the core pathophysiology of erectile dysfunction (ED) 6. Although organic aetiologies (vascular, neurological, endocrine) account for a significant proportion of ED, current epidemiological data suggest that 10% to 20% of all ED cases are purely psychogenic⁷.

Psychogenic ED is usually caused by deep psychological problems such as acute or chronic stress, severe performance anxiety, deep-seated guilt, clinical depression, low self-esteem and an overpowering fear of sexual failure⁸. These psychological barriers are often rooted in underlying relational friction, past sexual trauma, lack of trust and lack of open communication between sexual partners. The resulting sympathetic nervous system overdrive inhibits the parasympathetic signals required for relaxation of smooth muscle in the cavernosum, directly inhibiting penile erection⁹.

1.3 Ayurvedic Conceptualization: *Manasika Klaibya* and *Vajikarana*

Manasika Klaibya is psychogenic erectile dysfunction described in classical Ayurvedic literature. *Manasika Klaibya* pathogenesis is closely associated with the psychological states (*Manasika Bhava*) of the individual. The mental conditions such as *Chinta* (worry), *Shoka* (grief/sadness), *Bhaya* (fear) and *Krodha* (anger) disturb the somatic equilibrium. Such emotional disturbances vitiate the *Doshas*, aggravating *Vyana Vata* and *Apana Vata* (circulatory and sexual function), *Sadhaka Pitta* (emotional processing), *Tarpaka* and *Avalambaka Kapha*. At the same time the basic mental qualities (*Gunas*) of *Rajas* (hyperactivity/agitation) and *Tamas* (inertia/depression) become imbalanced¹⁰.

Against this, Ayurveda employs *Vajikarana* therapy (aphrodisiac medicine). The ancient scriptures mention that the best *vrishya* (aphrodisiac) medications have certain pharmacological qualities such as *vatahara* (that can pacify erratic *Vata*), *brimhaniya* (tissue nourishing), *jeevaniya* (life prolonging/vitalizing), *madhura* (sweet in taste and metabolic effect), *snigdha* (unctuous/lubricating),

and most importantly *manoharshana* (pleasing and relaxing to the mind)¹¹.

1.4 Pharmacological Profile of *Mucuna pruriens* (*Kapikacchu*)

Kapikacchu (*Mucuna pruriens*) is a leguminous plant available in the tropical region and is one of the best *Vrishya* agents in the Ayurvedic pharmacopoeia. The seeds contain a rich and complex phytochemical matrix with a direct action on the central nervous system. The seeds are unusually rich in L-DOPA (L-3,4-dihydroxyphenylalanine), the immediate metabolic precursor of the catecholamine neurotransmitters dopamine, norepinephrine and epinephrine¹².

In addition to L-DOPA, *Mucuna pruriens* contains a range of bioactive alkaloids and amines including serotonin (5-HT), beta-carboline, nicotine and bufotenine¹³. *Kapikacchu* is theoretically ideal to resolve the psychoneurological deficits underlying *Manasika Klaibya*^{14,15,16,17}, given the quintessential role of dopamine, epinephrine, and serotonin in regulating sexual function, mood elevation, and autonomic arousal. The *Manoharshana* property of the plant helps in mental relaxation by counteracting the sympathetic overdrive caused by anxiety^{18,19}.

Hence, a clinical study was designed to evaluate the efficacy of *Kapikacchu choorna* in the management of *Manasika Klaibya* in a scientific manner.

2. Materials and Methods

2.1 Study Setting and Ethical Approvals

The study was an open label, single arm clinical interventional study conducted at SDM College of Ayurveda & Hospital, Hassan, utilising the patients from *Manasa Roga* (Psychiatry) and *Vajikarana* (Aphrodisiac therapy) Out Patient (OPD) and In Patient (IPD) departments. The study was performed in strict accordance with the ethical guidelines of the Declaration of Helsinki. Prior to recruiting any subjects, the Institutional Ethic Committee gave detailed and formal approval to the trial protocol (Protocol ID: SDM/10/PG/MR/03).

2.2 Participant Selection and Diagnostic Criteria

The patient cohort was recruited using a convenient sampling technique²⁰. Forty-two male patients with clinical evidence of erectile dysfunction were randomly selected for the study.

The main diagnostic framework used for inclusion was the ICD-10 Diagnostic Criteria for Sexual Dysfunction (F-52) in particular isolating cases not caused by an organic disorder or structural disease²¹.

Criteria for Inclusion:

1. Male patients strictly between 21 and 40 years of age were selected.

2. Patients diagnosed as “Psychological Erectile Dysfunction” (*Manasika Klaibya*)^{22,23}.

Criteria for Exclusion:

1. Exclusion of patients with complete loss of sexual drive (absolute anaphrodisia) was performed to differentiate the results from severe endocrine failures.
2. Individuals with a documented history of alcohol or substance abuse.
3. Patients with other systemic disease (e.g. severe diabetes, cardiovascular disease) or risk of side effects from other concurrent pharmacological therapies.

2.3 Attrition and Cohort Flow

Of the 42 patients initially approached, 2 declined to give consent or participate. During the 30-day trial, an additional 5 participants were lost to follow-up. Thus, the last cohort of 30 participants (n=30) had complete pre- and post-intervention outcome data.

2.4 Intervention Protocol

Kapikacchu choorna (finely powdered seeds of *Mucuna pruriens*) was procured from the GMP (Good Manufacturing Practice) Certified SDM Ayurveda Pharmacy, Udupi, Karnataka, for standardised phytochemical potency.

Dosage and Administration: The participants were administered 4 Grams *Kapikacchu choorna*. This dose was administered thrice a day with warm water as *Anupana* (vehicle) postprandially (after meals). The therapeutic intervention was continued for a total of 30 days (exactly a month).

2.5 Assessment Criteria and Outcome Measures

To assess the subjective and objective improvement in psychosexual well-being, the study used the standard sexual health scoring system originally developed by Mehra B. L. and Singh G. (1994). Scores were taken at baseline (Before Treatment – BT) and at post intervention (After Treatment – AT)²⁴.

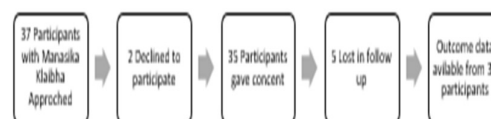
The evaluation framework consisted of the following nine elements:

1. **Sexual desire** (Graded on a scale of 0-5)
2. **Stiffness / Penile Rigidity** (Graded on a scale of 0-3)
3. **Erection Quality** (Graded on a scale of 0-5)
4. **Ejaculation Control** (Graded on a scale of 0-5)
5. **Orgasm Fidelity** (Graded on a scale of 0-5)
6. **Anxiety over performance** (Graded on a scale of 0-3)
7. **Post-coital fatigue/exhaustion** (Graded on a scale of 0-5)
8. **Coitus duration** measured in seconds (Graded on a scale of 0-5)

9. **Weekly frequency of coitus** (Graded on a scale of 0-4)

In addition to psychosexual indices, comprehensive seminal analyses were conducted to evaluate semen volume, liquefaction time, pH, total sperm count, and motility parameters (rapid linear progressive, slow linear progressive, non-progressive, and immotile).

Figure 1: Cohort flow chart of the study



2.6 Statistical Analysis

All clinical data obtained were analysed statistically in a stringent manner. Standard Deviation (S.D.) and Standard Error (S.E.) were calculated for each parameter. The paired t-test method was used to determine the statistical significance of differences between pre-treatment and post-treatment means. Statistical significance was set at different cut-off levels ($p < 0.05$ was significant, $p < 0.01$ and $p < 0.001$ was highly significant).

3. Results

3.1 Baseline Characteristics and Demographics

Analysis of the baseline demographic data revealed specific age and psychological distributions among the patient cohort (n=30).

Age Distribution: The study noted that 31% of the total study population fell under the younger age group of 21-30 years. The majority of the cohort, representing the remaining 69%, belonged to the 31-40 years demographic.

Psychological Constitution (Manasika Prakruti): In Ayurvedic diagnostics, *Manasika Prakruti* is considered one of the most heavily influencing factors in the causation of *Manasika Klaibya*²⁵. The psychological profiling of the participants yielded the following distribution:

- ⇒ **Tamasika Prakruti:** The highest prevalence, accounting for 53% of the population.
- ⇒ **Rajasa-Tamasika:** The second largest group, comprising 27%.
- ⇒ **Rajasa-Satvika:** Representing 17% of the cohort.
- ⇒ **Pure Rajasika Prakruti:** Found to be very minimalistic, contributing to only 03% of the study population.
- ⇒ **Pure Satvika Prakruti:** Notably, the study did not receive any patients with a pure

Satvika constitution afflicted with this psychogenic condition.

3.2 Outcomes on Objective Psychosexual Parameters

Following the one-month administration of *Kapikacchu choorna*, data indicated a robust positive response in several primary domains of male sexual function, while secondary parameters showed lesser, statistically non-significant variations.

Table 1: Effect of *Kapikacchu choorna* on Sexual parameters after 1 month of Treatment

Parameters	BT	AT	% of	SD	SE	t	p	Significance
Relief								
Sexual Desire	3	3.8	↑26.67	0.997	0.182	4.397	0.000	HS(<0.001)
Rigidity	1.53	2.30	↑50.33	0.504	0.092	8.33	0.000	HS(<0.001)
Erection	2.7	3.43	↑27.04	0.521	0.095	7.71	0.000	HS(<0.001)
Ejaculation	3.07	3.14	↑2.28	0.458	0.085	0.81	0.424	NS(>0.05)
Orgasm	2.69	3	↑11.52	0.541	0.101	3.09	0.005	HS(<0.01)
Performance anxiety	1.2	1.07	↓10.83	0.434	0.079	1.68	0.103	NS(>0.05)
Post-coital Exhaustion	1.31	1.21	↓7.63	0.409	0.076	1.36	0.184	NS(>0.05)
Duration of Coitus(in sec)	1.26	1.6	↑26.98	0.546	0.099	3.34	0.002	HS(<0.01)
Frequency of Coitus(per week)	1.23	1.4	↑13.82	0.461	0.084	1.98	0.057	NS(>0.05)

(BT = Before Treatment; AT = After Treatment; HS = Highly Significant; NS = Not Significant)

Interpretation of Psychosexual Outcomes: The drug significantly improved Sexual Desire (26.67%; $p < 0.001$), Penile Rigidity (50.33%; $p < 0.001$), Erection (27.04%; $p < 0.001$), Orgasm (11.52%; $p < 0.01$), and Duration of Coitus (26.98%; $p < 0.01$). Conversely, domains inherently tied to prolonged habitual conditioning or partner dynamics—such as Ejaculation (2.28%), Performance Anxiety (10.83%), Post Coital Exhaustion (7.63%), and Frequency of Coitus (13.82%)—were positively influenced but were not significantly affected statistically ($p > 0.05$).

3.3 Outcomes on Seminal Parameters

While ED is primarily a vascular and neuro-psychological issue, seminal parameters serve as excellent biomarkers for overall male reproductive axis health.

Table 2: Effect of *Kapikacchu choorna* on Seminal parameters after 1 month of Treatment (n=30)

Seminal Parameters	n	Mean BT	Mean AT	% of Change	S.D (±)	S.E (±)	t	p
Seminal volume (ml)	30	3.25	3.67	↑12.92	0.90	0.20	2.07	NS >0.05
Liquefaction time (mins)	30	20.5	20.75	↑1.21	4.72	1.06	0.24	NS >0.05
pH	30	7.65	7.48	↓2.22	0.44	0.08	1.79	NS >0.05
Sperm count	30	9.95	23.57	↑136.88	15.80	3.53	3.86	S<0.05
Rapid linear progressive	30	21.21	26.68	↑25.79	13.99	3.21	1.71	NS >0.05

Detailed Interpretation of Seminal Outcomes:

- **Impact on Seminal Volume and Liquefaction:** Over the one month, *Kapikacchu choorna* increased seminal volume by 12.92%, a rise deemed statistically insignificant ($p > 0.05$). It also had a statistically negligible effect on the liquefaction time, increasing it slightly to 1.21% ($p > 0.05$).
- **Impact on Motility and Morphology:** A 25.79% improvement in quick linear progressive sperm production has been seen in *Kapikacchu choorna*, which is statistically insignificant at $p > 0.05$. The improvement in slow linear progressive sperms was 34.74%, with a statistically significant result at $p < 0.001$. The percentage of immotile sperm dropped to 32.19%, which is statistically significant at $p < 0.05$. At $p > 0.05$, the 9.28% increase in non-progressive sperm was deemed statistically insignificant.

3.4 Safety and Adverse Events

There were no unexpected or adverse effects noted in the study and a strong safety profile was demonstrated for the raw botanical preparation at 12g/day with careful monitoring over the course of the 30-day intervention.

4. Discussion

The results of this clinical trial offer profound insights into the dual mechanistic action of *Kapikacchu choorna*, bridging classical Ayurvedic theory with modern neuroendocrinology. The next sections combine these paradigms to explain the observed efficacies.

4.1 Probable Effect of *Kapikacchu choorna* on *Manasika Bhava* (Psychological States)

In the Ayurvedic pathological framework, while all three Doshas are found vitiated in *Manasika Klaibya*, there is a specific, severe vitiation of Vyana Vata, Apana Vata, Sadhaka Pitta, and Tarpaka and Avalambaka Kapha. The baseline psychological profiling of the cohort heavily supported this concept: 71.4% of patients had Chinta (worries), 42.8% had Shoka (sadness), 17.1% had Bhaya (fear), and 54.2% of patients had Krodha (anger),

presenting alongside other standard symptoms of *Manasika Klaibya*.

Ayurvedic pharmacology postulates that Chinta, Shoka, and Bhaya specifically aggravate Vata, whereas Krodha aggravates Pitta. Furthermore, these emotional turbulences heavily vitiate the Rajas and Tamas dimensions of the mind.

Kapikacchu choorna exhibits an intricate pharmacological profile characterized by Madhura (sweet) and Tikta (bitter) Rasa (taste), Guru (heavy) and Snigdha (unctuous) Guna (qualities), Ushna (hot) Veerya (potency), and Madhura Vipaka (post-digestive effect). This combination exerts a powerful Kapha-Vatahara Doshagnata (ability to balance Kapha and Vata).

Due to its Madhura and Tikta Rasa, alongside Madhura Vipaka, an overarching Shamana (reduction/pacification) action on Pitta, Vata, and Kapha can be assumed.

It serves to bring the volatile Rajas and stagnant Tamas mental states back into equilibrium.

The Guru and Snigdha Guna likely facilitate the Shamana of hyperactive Vata and Pitta.

The Ushna Veerya provides a counteracting Shamana to cold Vata and Kapha blockages.

Critically, due to its Madhura Rasa and Snigdha Guna, it effectively induces Manoharshana (mental delight and relaxation). Due to its systemic Balya (strengthening), Brumhana (nourishing), and Vrshya (aphrodisiac) properties, it probably ameliorates erectile dysfunction by toning up the physical body muscles and reducing systemic fatigue. Mano Harshana is the cardinal property of Vrsya drugs, and this is likely the primary reason *Kapikacchu choorna* acted so favorably upon the *Manasika Bhava*, thereby resolving the psychological impediments of *Manasika Klaibya*²⁶. Additionally, the morphological and qualitative properties of *Kapikacchu choorna* (like Madhura Rasa and Snigdha Guna) are highly similar to that of Shukra (semen/reproductive tissue) itself. This principle of similarity (*Samanya*) is the probable reason it successfully improved the seminal parameters as well.

4.2 Probable Mode of Action: Neurochemistry and L-DOPA Dynamics

The shift from classical Ayurvedic theory to modern neurochemistry is greatly dependent on the high L-DOPA content of the *Mucuna pruriens*. As mentioned earlier, L-DOPA is found to be around 3.1 to 6.1 % in the *Mucuna* seeds, along with Serotonin (5-HT). L-DOPA is the direct precursor of catecholamines like Dopamine and Epinephrine which can cross the blood brain barrier^{27,28,29}.

4.2.1 Mechanism of Action on Sexual Desire & Orgasm

Sexual desire is a complex construct regulated by independent, yet interacting, brain systems involved in sexual excitation and inhibition. Hypoactive sexual desire disorder is often caused by either hypo-functional excitation, hyper-functional inhibition (anxiety/stress), or a toxic combination of the two³⁰. Current neurobiological models suggest that brain dopamine systems connecting the hypothalamus (particularly the Medial Preoptic Area) with the limbic system constitute the absolute nucleus of the sexual excitatory system. Exogenous drugs that stimulate hypothalamic dopamine activation have been found to be highly efficacious in stimulating sexual desire in both animals and humans^{31,32,33}. The conversion of *Mucuna*-derived L-DOPA to central dopamine provides a direct pharmacological pathway to help restore the factors of Sexual Desire and Orgasm, as dopamine is intrinsically involved in sexual gratification, reward-seeking behaviour, and general mood elevation.

The seeds also contain endogenous Serotonin (5-HT) which helps to regulate mood, appetite and sleep architecture³⁴. The intervention probably improves Desire and Orgasm by alleviating depression and normalising sleep-wake cycles through serotonergic modulation.

4.2.2 Mechanism of Action on Penile Rigidity & Erection

Penile erection is a haemodynamic event that is driven by autonomic nerve signalling. The initial vasodilation is mediated by parasympathetic release of nitric oxide (NO) with systemic catecholamines playing a supportive role. Increased levels of epinephrine in peripheral and cavernous blood help maintain a penile erection³⁵. The loading of precursors from *Kapikacchu choorna* contributes to this epinephrine synthesis which may be directly beneficial for the Rigidity and Erection factors measured in the study.

Kapikacchu choorna is well known historically and experientially to improve the cases of depressed libido, impotency of both organic and psychogenic origin and management of premature ejaculation in humans³⁶. It enhances total sexual performance, androgenic activity, mating behaviour, mounting frequency, ejaculatory latency, and penile reflexes in animal models. In other words the link between brain Dopamine levels and physical sexual behaviour is in place and therefore the strong effect on Erectile Dysfunction seen in this clinical cohort is highly likely to be because of this particular chemical constitution.

The drug essentially improves general blood circulation and creates a feeling of general well-being by toning up both mental and physical functions. This neuro-vascular synergy is most likely the reason for highly significant improvement in Sexual Desire, Rigidity, Erection, Orgasm and the Duration of coitus .

4.3 Probable Mode of Action on Seminal Parameters

Psychogenic stress has a negative impact on the Hypothalamic-Pituitary-Gonadal (HPG) axis^{37,38}. In cases with low sperm count or poor morphology serum levels of testosterone, LH (Luteinizing Hormone), dopamine, adrenaline and noradrenaline are generally found to be significantly decreased³⁹. On the other hand, these men have a compensatory but ineffective increase in FSH (Follicle Stimulating Hormone). Scientific evidence of *Mucuna pruriens* reversing the endocrine deficits⁴⁰. It elevates serum levels of Testosterone, LH, Dopamine, Adrenaline and Noradrenaline and decreases the elevated levels of FSH back to baseline. This hormonal optimisation stimulates spermatogenesis and gives a possible physiological explanation for the effectiveness of *Kapikacchu choorna* in improving seminal parameters, especially total count and progressive motility.

The relatively short period of the clinical trial (only 1 month) might explain the statistical insignificance of some secondary results (e.g. rapid linear progression, ejaculate volume). It takes about 64-72 days to complete the entire cycle of human spermatogenesis. So 30 days of intervention is sufficient only for neurological and vascular changes and covers only a part of the window of sperm maturation.

5. Future Directions and Study Limitations

The data are very encouraging, although the limiting factor for full seminal rehabilitation is clearly the 1 month duration of the study. The absence of significant change in domains heavily affected by conditioned psychogenic habits (e.g. Performance Anxiety, Post-Coital Exhaustion, Ejaculation latency) indicates that while *Mucuna* may initiate rapid physiological repair, profound psychological unlearning may require extended pharmacological support or adjunct cognitive-behavioral therapies. Future studies should be conducted with double-blind, placebo-controlled designs and with a minimum duration of 90 days to allow for a full spermatogenic cycle and a more definitive evaluation of changes in seminal volume and rapid motility.

6. Conclusion

The present clinical study revealed that the systematic administration of *Kapikacchu choorna* significantly improved the key sexual indices like sexual desire, penile rigidity, erection, orgasm and duration of coitus. Moreover, there has been a significant and quantifiable improvement in key seminal parameters, such as decreased immotile sperm and increased slow linear progressive sperm.

Kapikacchu choorna directly tackles the root pathophysiology of psychosexual inhibition by effectively modulating the central dopaminergic pathways, down-regulating sympathetic nervous system distress and harmonising the *Manasika Bhavas* (psychological states). Hence, *Kapikacchu choorna* can be safely used as a holistic as well as very effective therapeutic modality in the clinical management of *Manasika Klaibya* (Erectile Dysfunction).

Financial support and sponsorship: Nil

Conflicts of interest: None

Acknowledgments: The authors would like to acknowledge SDM College of Ayurveda & Hospital, Hassan and Manasa Roga Department for all the support.

7. References

1. Rupp HA, Wallen K. Sex Differences in response to Visual Sexual Stimuli: A review. *Archives of Sexual Behavior* [Internet]. 2007 Jul 31;37(2):206–18. Available from: <https://doi.org/10.1007/s10508-007-9217-9>.
2. Vasconcelos P, Carrito M, Quinta-Gomes AL, Patrão AL, Nóbrega C, Costa P, et al. Associations between sexual health and well-being: a systematic review. *Bulletin of the World Health Organization* [Internet]. 2024 Dec 1;102(12):873-887D. Available from: <https://doi.org/10.2471/blt.24.291565>
3. Becker T, Chin M, Bates N. Introduction and background [Internet]. *Measuring Sex, Gender Identity, and Sexual Orientation - NCBI Bookshelf*. 2022. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK581050/>
4. Hedén L, Jonsson LS, Fredlund C. The connection between Sex as Self-Injury and Sexual Violence. *Archives of Sexual Behavior* [Internet]. 2023 Aug 28;52(8):3531–40. Available from: <https://doi.org/10.1007/s10508-023-02669-5>
5. Malhi GS, Bell E. Questions in psychiatry (QuiP): Psychological basis for sexual dysfunction in psychiatry. *Bipolar Disorders* [Internet]. 2022 Nov 20;24(8):830–3. Available from: <https://doi.org/10.1111/bdi.13273>.
6. Kaplan and Sadock's- *Synopsis of Psychiatry*, published by Lippincott Williams and Wilkins, 9th Ed, 2003.
7. Michetti, P M; Rossi, R; Bonanno, D; Tiesi, A; Simonelli, C (2005). "Male sexuality and regulation of emotions: a study on the association between alexithymia and

- erectile dysfunction (ED)". International Journal of Impotence Research 18 (2): 170–4. doi:10.1038/sj.ijir.3901386. PMID 16151475.
8. Vasan SS, Pandey S, Rao STS, Gupte DM, Gangavaram RR, Saxena A, et al. Association of sexual health and mental health in erectile Dysfunction: Expert opinion from the Indian context. Cureus [Internet]. 2025 Jan 22;17(1):e77851. Available from: <https://doi.org/10.7759/cureus.77851>
 9. Andersson KE, Stief C. Penile erection and cardiac risk: pathophysiologic and pharmacologic mechanisms. The American Journal of Cardiology [Internet]. 2000 Jul 1;86(2):23–6. Available from: [https://doi.org/10.1016/s0002-9149\(00\)00887-0](https://doi.org/10.1016/s0002-9149(00)00887-0)
 10. Agnivesa. Charaka samhita by Agnivesa with Ayurveda deepika teeka of Chakrapanidatta. Reprint. Vaidya Yadavaji Trikamji Acharya, editor. Vol. 3. Varanasi: Chaukhamba Sanskrit Series; 2011. p. 107.
 11. Chaudhary P, Lamba N, Mehra B. VRISHYA AND VAJIKARANA - EXPLORING ANCIENT SCIENCE OF APHRODISIACS. Journal of Research and Education in Indian Medicine [Internet]. 2017 Jan 1;1. Available from: <https://doi.org/10.5455/jreim.82-1432617971>.
 12. Raina AP, Khatri R. Quantitative determination of L-Dopa in seeds of *Mucuna Pruriens* Germplasm by HPTLC. Indian J Pharma Sci. 2011 Jul; 73(4):459-62.
 13. Suresh S, Prithviraj E, Prakash S. Dose- and time-dependent effects of ethanolic extract of *Mucuna pruriens* Linn. seed on sexual behaviour of normal male rats. Journal of Ethnopharmacology. 2009;122(3):497-501.
 14. Giuliano F, Allard J. Dopamine and male sexual function. European Urology. 2001;40(6):601-8.
 15. Giuliano F, Allard J. Dopamine and sexual function. International Journal of Impotence Research. 2001;13(Suppl 3):S18-28.
 16. Pfaus JG. Pathways of sexual desire. Journal of Sexual Medicine. 2009;6(6):1506-33.
 17. Arias-Carrion O, Poppel E. Dopamine, learning & reward seeking behavior. Acta Neurobiologiae Experimentalis. 2007;67(4):481-88.
 18. Shukla KK, Mahdi AA, Ahmad MK, Shankhwar SN, Rajender S, Jaiswar SP. *Mucuna pruriens* improves male fertility by its action on the hypothalamus-pituitary-gonadal axis. Fertility and Sterility. 2009;92(6):1934-40.
 19. Amin KMY, Tariq M, Dixit RK. Daily use of *Mucuna pruriens* extract ameliorates stress-induced sexual dysfunction in male rats. Phytotherapy Research. 1996;10(6):531-33.
 20. Etikan I. Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics [Internet]. 2016 Jan 1;5(1):1. Available from: <https://doi.org/10.11648/j.ajtas.20160501.11>.
 21. 2012 ICD-10-CM Codes F52*: Sexual dysfunction not due to a substance or known physiological condition [Internet]. Available from: <https://www.icd10data.com/ICD10CM/Codes/F01-F99/F50-F59/F52>.
 22. Spurlin WJ. Queer Theory and Biomedical Practice: The Biomedicalization of Sexuality/The Cultural Politics of Biomedicine. Journal of Medical Humanities. 2018;40(1):7-20.
 23. Katz BG, Ziegelmann MJ, Trost LW. The Role of Stress in the Pathogenesis of Erectile Dysfunction. Journal of Men's Health. 2018;14(2):22-30.
 24. Mehra BL, Skandhan KP, Singh G. studies on *Klaibya* (male sexual dysfunctions) and its management with *Vajikarana*. 1995. In: Bhatted S, Singh G, Thakar A, editors. A comparative study of the role of *Vajikarana* drugs administered orally and by *Basti* in the management of *Klaibya* with reference to Erectile Dysfunction, Sp. Panchkarma, Department Kayachikitsa, Gujarat Ayurvedic Uni. Jamnagar. 2002.
 25. Barman J, Rout S, Moharana PK. Ayurvedic management of *Klaibya* - Case Study. Journal of Ayurveda and Integrated Medical Sciences [Internet]. 2023 May 26;8(4):230–8. Available from: <http://dx.doi.org/10.21760/jaims.8.4.39>.
 26. Patil R, Vadnere GP, Patil K, More N. *Kapikacchu*: The Brain Medicine. Pharmacognosy Research [Internet]. 2023 Nov 8;15(4):601–6. Available from: <https://doi.org/10.5530/pres.15.4.063>
 27. Sharma PV. Classical Uses of medicinal plants. Varanasi: Chaukhamba Publications; 1996. p. 77.
 28. Lampariello LR, Cortelazzo A, Guerranti R, Sticozzi C, Valacchi G. The Magic Velvet Bean of *Mucuna pruriens*. Journal of Traditional and Complementary Medicine. 2012;2(4):331-39.

29. Mahdi AA, Shukla KK, Ahmad MK, Rajender S, Shankhwar SN, Singh V, Dalela D. *Mucuna pruriens* Reduces Stress and Improves the Quality of Semen in Infertile Men. Evidence-Based Complementary and Alternative Medicine. 2011;2011:410453. <https://doi.org/10.3897/pharmacia.71.e132062>.
30. Andersson KE. Pharmacology of penile erection. Pharmacological Reviews. 2001;53(3):417-50
31. Melis MR, Argiolas A. Dopamine and sexual behavior. Neuroscience & Biobehavioral Reviews. 1995;19(1):19-38.
32. Hull EM, Muschamp JW, Sato S. Dopamine and serotonin: influences on male sexual behavior. Physiology & Behavior. 2004;83(2):291-307.
33. Buvat J. The role of dopamine in sexual function and implications for psychiatric disorders. International Journal of Impotence Research. 2000;12(Suppl 4):S84-S89.
34. Young SN. How to increase serotonin in the human brain without drugs. Journal of Psychiatry and Neuroscience. 2007;32(6):394-99.
35. Burnett AL. Nitric oxide in the penis: physiology and pathology. The Journal of Urology. 1997;157(1):320-24.
36. MacKay D. Nutrients and botanicals for erectile dysfunction: examining the evidence. Alternative Medicine Review. 2004;9(1):4-16.
37. Agarwal A, Makker A, Sharma R. Clinical relevance of oxidative stress in male factor infertility: an update. American Journal of Reproductive Immunology. 2008;59(1):2-11.
38. Corona G, Rastrelli G, Maseroli E, Sforza A, Maggi M. Sexual desire drops significantly in men suffering from generalized anxiety disorder. Psychoneuroendocrinology. 2015;51:192-200.
39. Di Guardo F, Vloeberghs V, Bardhi E, Blockeel C, Verheyen G, Tournaye H, et al. Low Testosterone and Semen Parameters in Male Partners of Infertile Couples Undergoing IVF with a Total Sperm Count Greater than 5 Million. Journal of Clinical Medicine [Internet]. 2020 Nov 26;9(12):3824. Available from: <https://doi.org/10.3390/jcm9123824>.
40. Ahmed SM, Hummadi YMKAM, Waheed HJ. A seed extract of *Mucuna pruriens* reduced male reproductive endocrine disruptions in rats induced by chlorpromazine. Pharmacia [Internet]. 2024 Aug 23;71:1–10. Available from: