



Effectiveness of Pranic Healing as complementary therapy on lower urinary tract symptoms and sleep: Single-blind randomized trial

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ABSTRACT

Background: Benign Prostatic Hyperplasia (BPH) commonly affects older men, leading to lower urinary tract symptoms (LUTS) that affect sleep and quality of life. This study evaluates the effect of Pranic Healing (PH) as a complementary therapy for bothersome LUTS by normalising biofield energy centres called *Chakras*.

Methodology: A single blind trial involving 76 men with LUTS was conducted, randomised into Medication-only (MED) and Medication-plus-Pranic Healing (MEDPH) groups. The MEDPH received PH sessions twice weekly for 5 weeks.

Results: The study compared MED (n = 30) and MEDPH (n = 36) participants, finding significant improvements in IPSS scores ($p \leq .001$) in both groups. The MEDPH group showed a greater reduction in incomplete bladder emptying and intermittency. The post void residual volume increased significantly in the MED group (Wilcoxon $Z = -2.335$, $p = .02$), while the MEDPH group reduced non-significantly. Sleep quality index improved significantly (McNemar=.013) in the MEDPH group, while the MED group showed no significant change. Subjective sleep quality, duration, and latency improved significantly in the MEDPH group. Healers reported improved energy balance in *chakras* of MEDPH group. Perceived energy by healers in lower *chakra* relates to urinary parameters.

Conclusion: PH could alleviate LUTS, enhancing quality of life due to urination, and improved sleep, among moderate BPH patients.

Trial registration: This study has been registered under the Clinical Trial Registry of India. (CTRI No: CTRI/2023/01/049004)

1. Introduction

Benign Prostatic Hyperplasia (BPH) is a chronic, progressive disease of enlargement of the prostate gland caused by non-malignant proliferation of epithelial prostate cells and smooth muscle cells and often associated with bothersome lower urinary tract symptoms (LUTS). These LUTS are further categorised into voiding or obstructive symptoms (hesitancy, slow stream, intermittency, straining, incomplete emptying), storage symptoms (frequency, urgency, nocturia, urge

incontinence), and post-micturition (post-void dribbling) symptoms¹. BPH is a prevalent condition affecting 50–75 % of men aged 50 and above^{2,3}. Concurrently, LUTS commonly associated with BPH, are reported to affect 39.0 % of those aged over 60⁴. The impact of BPH and associated LUTS, extends beyond physical discomfort, significantly impairing various aspects of life. Studies have underscored their detrimental effects on quality of life (QOL)⁵, as well as sleep patterns and mental well-being⁶. BPH causes complications such as urinary retention, haematuria, urinary tract infection, retrograde ejaculation, erectile

Abbreviations: BAF, Bio field Assessment Form; BPH, Benign Prostatic Hyperplasia; COPD, Chronic Obstructive Pulmonary Disease; HbA1C, Glycosylated Haemoglobin; IPSS, International Prostate Symptom Score; LUTS, Lower Urinary Tract Symptoms; MED, Medication; MEDPH, Medication plus Pranic Healing; PH, Pranic Healing; PSQI, Pittsburgh Sleep Quality of Index; PVR, Post-void Residual Urine; Qavg, Average Flow Rate; Qmax, Maximum Flow Rate; QOL, Quality of Life; Tmax, Time to Maximum Flow; UQoL, Quality of Life due to Urination; USG KUB, Ultrasound Kidney Ureter and Bladder.

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dysfunction, and bladder stones¹.

Sleep disturbances are frequently observed in men experiencing LUTS, with numerous studies indicating a connection between LUTS and sleep quality. Notably, nocturia is a risk factor for sleep disturbance, highlighting its adverse effects on sleep quality⁷. The treatment of BPH includes non-pharmacological (lifestyle modification, herbal medicines), pharmacological (alpha-blockers, 5 alpha-reductase inhibitors, muscarinic receptor antagonists, phosphodiesterase 5 inhibitors), and surgical intervention and treatment depending on the severity of symptoms^{1,8}. Tamsulosin, an alpha blocker, is typically prescribed at daily doses ranging from 0.2 to 0.8 mg⁹. Surgical intervention becomes necessary when medical treatments prove ineffective or when patients experience complications¹. But surgical intervention is difficult to perform in those who have severe underlying diseases, and in the elderly or post-operatively side effects may occur¹⁰.

As the elderly population continues to grow, it's crucial to provide prompt attention to their health concerns, considering their vulnerability. It's imperative to integrate care services effectively, ensuring seamless coordination while prioritising specific healthcare requirements¹¹. Urinary symptom management as well as enhancement in QOL among LUTS patients is important¹¹. Traditional and complementary medicine serves as a valuable tool, adapting techniques for accessibility and benefiting individuals of all abilities¹². Patients experiencing LUTS necessitate a holistic approach¹³.

A variety of complementary therapies have been explored as potential treatments for LUTS, in conjunction with conventional treatments, showing promising results. Among these therapies are electroacupuncture and electronic moxibustion¹⁴, acupuncture¹⁵, moxibustion¹⁶, auriculotherapy¹⁷, yoga¹⁸, and various herbal therapies^{19,20}, have shown effectiveness in managing LUTS symptoms. These studies highlight a growing interest in complementary therapies. Bio-field therapies are a group of complementary and alternative medicines that work with the concept of the human biofield—a subtle energy field that surrounds and interpenetrates the physical body²¹.

Pranic Healing (PH) harnesses the vital life force known as *prana* in its approach to addressing both physical and psychological disorders by targeting the meridian junctions, akin to acupoints, known as *chakras*. These energy centres, as described by Chase²², are vital components of the human energy body, intricately linked to the proper functioning of essential organs. They exhibit interdependence and maintain a profound connection with one another. Nourishing the human energy body can be achieved through consistent self-reflection and the utilisation of diverse techniques to activate and sustain the flow of energy. This interconnectedness underscores the importance of harmonising pranic energy flow through these *chakras*²³. As Sui²⁴ elaborates, just as the physical body comprises major and minor organs, the energy body consists of major, minor, and mini *chakras*, with disruptions in these *chakras* potentially leading to ailments manifesting in the physical body. This underscores the significance of optimising pranic energy flow for overall well-being.

Empirical evidence further underscores the potential of PH in therapeutic applications. In a randomised double blind trial involving 52 participants with mild to moderate depression, Rajagopal²⁵ found that PH, when used as an adjuvant therapy alongside medication, significantly improved symptoms compared to a control group. Similarly, a randomised, double-blind, placebo-controlled pilot study conducted by Mahesh²⁶ aimed to assess the impact of PH on chronic obstructive pulmonary disease (COPD) patients. Remarkable improvements were observed in lung function, quality of life, and physiological condition, highlighting the therapeutic potential of PH in managing COPD. Beyond mental health and respiratory conditions, PH has shown promise in diverse realms. Studies by Aithal²⁷ have demonstrated in a case study that the participant experienced a notable improvement in sleeping patterns following six PH sessions, suggesting a successful resolution of insomnia. while, Nittur²⁸ has shown significant reductions in severity and size, along with improvements in various wound parameters

associated with diabetic foot ulcers. These findings collectively underscore the holistic approach of PH, offering avenues for addressing a spectrum of health concerns through the optimisation of pranic energy flow within the body's intricate network of *chakras* and meridian points. There is a need to explore other low-cost complementary therapies that can be offered along with conventional treatment. This study aimed to investigate the effect of PH as a complementary therapy to relieve lower urinary tract symptoms and improve the quality of life. To explore the responses of participants and note changes in perception of Pranic Healers on *chakras* during the PH session.

2. Methodology

2.1. Study design and setting

A prospective, open-label, parallel-design, assessor-blinded, randomised controlled trial was conducted at the Urology Clinic in Mysore. The parallel group design was chosen to compare the efficacy of the intervention. The blinding of the assessor was considered to reduce the risk of bias in outcome assessment.

2.2. Participants

2.2.1. Inclusion criteria

Male participants aged 50 to 75 years, diagnosed as moderate BPH with bothersome LUTS with the International Prostate Symptom Score ≥ 8 to ≤ 19 were included in the study.

2.2.2. Exclusion criteria

Participants with uncontrolled diabetes mellitus in the last three months, kidney failure, kidney stones, bladder stones, urethral stricture, prostate cancer, prostatitis, bladder neck stricture, haematuria, urinary tract infection, neurogenic bladder dysfunction and participants who withdraw consent were excluded.

The participants were recruited from a urology clinic in Mysore, Karnataka state, India, with additional efforts made through displaying roll-up stands in the clinic, distributing pamphlets at parks, conducting informational talks for retired employees, and organising a camp to enhance the study recruitment.

2.3. Randomization and allocation concealment

A random sequence generator was created using Random Allocation Software²⁹ and randomly allocated in a 1:1 ratio to either.

1. Medication Group (MED) (n = 38) (Tamsulosin 0.4 mg) or
2. Medication + Pranic Healing Group (MEDPH) (n = 38) (Tamsulosin 0.4 mg + Pranic Healing) (Fig. 1)

The randomization number was generated by an independent statistician, and sequentially numbered chits indicating group allocation were prepared and sealed in opaque envelopes, each numbered according to the sequence. These envelopes remained concealed until the intervention was assigned to each participant.

2.4. Interventions

2.4.1. The MED group

Tamsulosin 0.4 mg tablets were dispensed during the randomization visit, and advised to take one tablet orally at night daily for a period of 5 weeks. A phone call was made regarding medication adherence, side effects, and any changes to concurrent drugs following fifteen days of randomization visits. Participants were also informed to call study staff if any changes in their health during the study period.

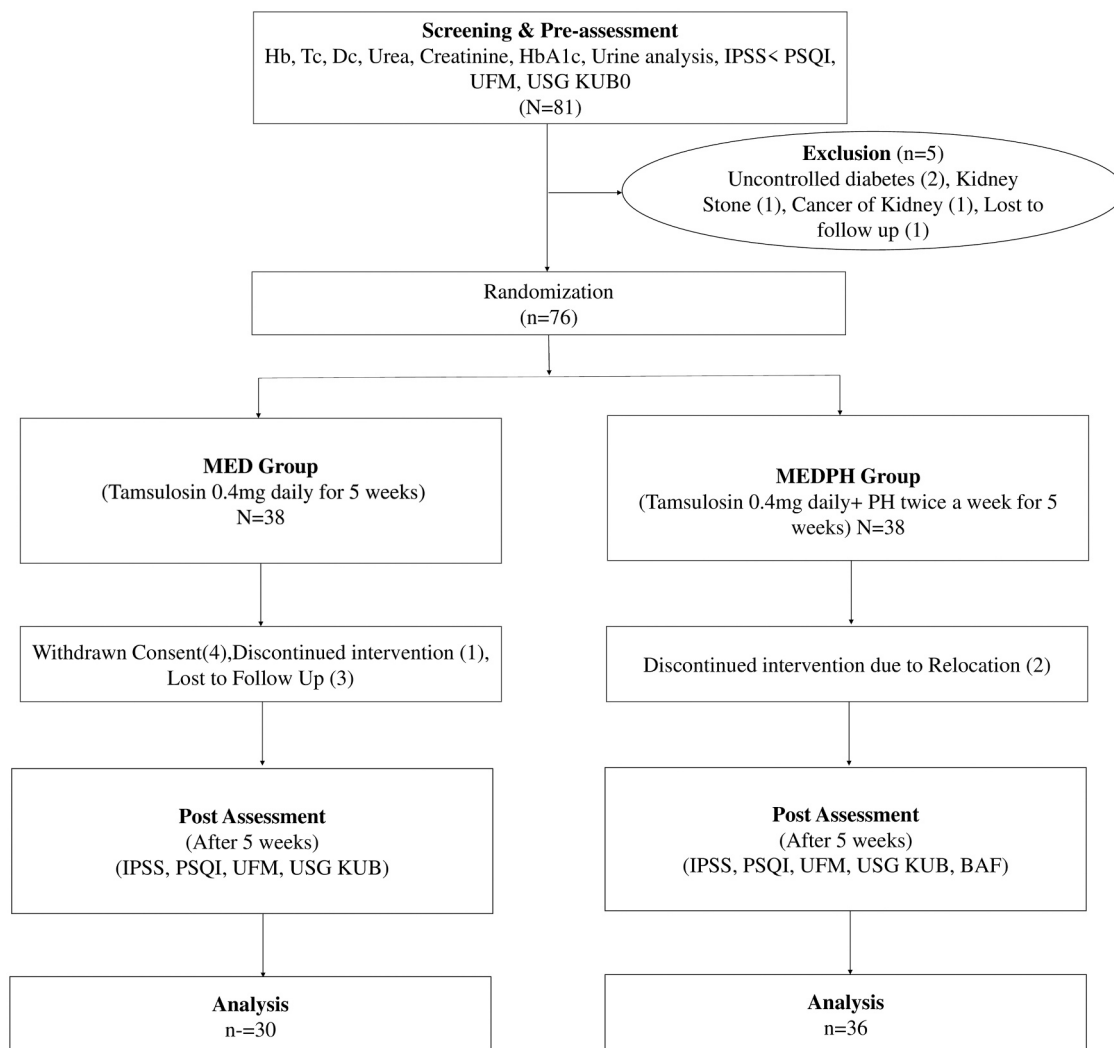


Fig. 1. Flow chart.

2.4.2. The MEDPH group

Tamsulosin 0.4 mg tablets were dispensed during the randomization visit, and it was advised to take one tablet orally every day at night for a period of 5 weeks along with PH sessions twice a week. PH was administered at the Pranic Healing centre by certified Pranic healers.

2.4.2.1. Pranic healing procedure. During the session, the participant sat on a chair with closed eyes and palms facing upward, while the Pranic Healer either sat/stood in front of the participant. This is a no-touch therapy, with the practitioner projecting *Prana* to the participant according to the standard protocol (supplementary file) and customising the treatment based on individual needs, from a distance of 1 to 2 m away from the patient²⁴ for a duration of 30 min. The frequency of the sessions was twice a week. Communication was allowed between the participant and healer before and after the session. However, during the session, communication was limited to minimise distractions. Two experienced Pranic healers were recruited for the study to conduct individual PH sessions for each participant. Selection criteria included certification in PH, with an average of 8 years of experience. The protocol training was provided to healers considering the biofield therapy guidelines before the commencement of the trial, and both Pranic Healers followed the same standardised protocol^{24,30}. During the healing session visit, adverse events and concomitant medication change details were assessed by the researcher.

2.5. Outcomes

2.5.1. Primary outcome

2.5.1.1. International Prostate Symptom Score (IPSS). It is a self-administered questionnaire and a useful tool to assess the severity of the symptoms. It is an 8-item questionnaire containing seven questions related to symptoms of BPH and one question related to the patient's perceived quality of life due to urination. (UQoL) ($\alpha = 0.86$, test-retest reliability $r = 0.92$)³¹.

2.5.1.2. Uroflowmetry. It is a non-invasive diagnostic procedure measuring urine flow rate and pattern³². The parameters include volume, time, and rate of urination. Voiding time, flow time, and time to peak flow (Tmax) fall under the time of urination. Peak flow rate (Qmax) and average flow rate (Qave) fall under the rate of urination.

2.5.2. Secondary outcome

2.5.2.1. Ultrasound of kidneys, ureters, and bladder (USG KUB). It is an ultrasound of the lower abdomen that assesses the condition of the kidneys, ureters, and urinary bladder as well as pre-voided and post-voided residual (PVR) volume and prostate gland.

2.5.2.2. Pittsburgh Sleep Quality Index (PSQI). It is a self-reported questionnaire that assesses sleep quality over a month, with 19 self-rated and 5 partner-rated questions. It covers seven components, such as subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction, each scored from 0 to 3. The overall score ranges from 0 to 21, with a higher score suggesting poorer sleep quality. The last five questions provide clinical information. ($\alpha = 0.83$, test-retest reliability = 0.85)³³.

2.5.2.3. Biofield Assessment Form (BAF). The intensity and diameter of *chakras* were measured by a pranic healer through the perception of sensations in their palms. Based on the Biofield Assessment Form (BAF)³⁴, we employed two methods to measure pranic healers' perceptions of *chakra* energy:

- 1. *Chakra* energy intensity:** The healer sensitizes the hand for a short duration³⁵ and sets a clear intention to scan the participants energy field. The healer positions their hands a few inches away from the patient's body, moving them slowly over different areas. As the healer moves their hands, they pay attention to sensations such as tingling, warmth, coolness, or pressure. By holding their hands where they still feel maximum energy sensation was considered as intensity. These sensations are interpreted as indicators of the state of the energy field in that area²⁴. The healer notes any areas where the energy feels different or disturbed in energy level or intensity. This might indicate congestion (excess energy), depletion (lack of energy) in those regions. Likert scale (ranging from 0 for no intensity of energy to 5 for high intensity of energy) was used to measure the perceived energy levels in 11 major *chakras* by healer²⁴. Based on the scan, the healer proceeds to assess the activity of *chakra*.
- 2. *Chakra* Activity:** Healers assess *chakra* activity by sensing energy with their fingertips. They imagine a ruler, moving their hands over each *chakra*'s area with the strongest sensations. By holding their hands where they still feel energy, they estimate the *chakra*'s diameter. This perceived width between the hands determines the *chakra*'s size. *Chakra* activity was assessed by comparing the diameter of each *chakra* to the average diameter of all *chakras* during the session. Activity levels (inches) were then classified into three categories: underactive (less than or equal to -1), moderate/normal (between -0.99 and +0.99), and overactive (greater than or equal to 1). This face validated form was developed by researchers and pranic healers of the World Pranic Healing Foundation, India- Research Centre.

2.5.2.4. Qualitative analysis. Open-ended questions were administered to the MEDPH group at visits 4, 7, and 10 to elucidate the participant's experiences with PH. It involved nine questions designed to gather insights into their encounters with PH. It was analysed qualitatively by the research team.

2.5.2.5. Voiding diary. Voiding diaries are standardised tools used to capture the frequency and volume of fluid intake and urine output³⁶. The diary was provided to both group participants to record the frequency and volume of fluid intake and urine output/leakage daily for 24 h over a period of 5 weeks.

2.6. Sample size

The sample size was calculated by a 95 % confidence interval with a 20 % dropout rate to achieve an 80 % power (i.e., $1-\beta = 0.8$) with equal allocation (i.e., $k = 1$) at the 5 % level of significance (i.e., $\alpha = 0.05$). The sample sizes required for the MEDPH and MED groups are 38 and 38, respectively³⁷.

2.7. Randomization and blinding procedures

During their initial visit to the clinic, potential participants received detailed information about the study from the principal investigator (PI) along with an information sheet detailing study objectives and procedures. Participants were given ample time to review the information before providing their informed consent, which was obtained voluntarily through audio-visual written documentation. Also, consent to publish the data was obtained from all the participants. Following this, participants underwent a demographic detail, vital signs measurements, a physical examination, including a digital rectal examination by a urologist. Laboratory tests such as urea, creatinine, glycosylated haemoglobin, haemoglobin, total leukocyte count, differential count levels, urine analysis, uroflowmetry, USG-KUB, IPSS and PSQI questionnaire were performed during screening visit. Once found eligible, participants were enrolled by PI, and randomised. At the time of randomization, the sealed envelope was opened by the investigator in front of the participant. Participants were informed of their group allocation. The outcome assessors were blinded to the group allocation.

2.8. Statistical Analysis

Since data wasn't normally distributed (Shapiro-Wilk test), descriptive statistics are reported as averages (standard deviation) for continuous data and frequencies/proportions for categorical data. Group score differences were analysed using Mann-Whitney U-tests. Within-group changes used the Wilcoxon signed-rank test. Categorical data changes (pre- vs. post-treatment) for both MED and MEDPH groups were analysed with chi-square and McNemar tests. *Chakra* intensity (Likert scale) and activity (inches) before and after PH were assessed for both healers using the Wilcoxon Signed-Rank test. Differences in healer perceptions of *chakra* energy and activity (before vs. after PH) were analysed with the Kruskal-Wallis test. The chi-square test was used to analyse whether there were any changes in *chakra* activity between before and after receiving PH. The relationship between the intensity of each *chakra* and the results of uroflowmetry and ultrasound (USG-KUB) was assessed using Spearman's ranked correlation. All analyses were performed using SPSS software.

2.8.1. Qualitative analysis

Qualitative content analysis was used to the MEDPH group to examine the qualitative feedback. The transcripts from participants during PH sessions underwent thorough review and systematic evaluation by a team of three researchers. They compiled a list of experiences and feedback related to PH, grouping similar experiences and assigning appropriate labels³⁸.

2.9. Ethical considerations

The study was approved by the Independent Ethics Committee, World Pranic Healing Foundation India (IEC Ref No. 6/2022/29/12/2022) and registered under the Clinical Trial Registry of India. (CTRI No. CTRI/2023/01/049004). This study complied with the Declaration of Helsinki and the Indian Council of Medical Research guidelines³⁹. The recruitment phase for the study occurred from January 17, 2023 to September 27, 2023. The data collection concluded on November 22, 2023.

3. Results

A total of 81 participants were screened for the study. However, 5 were excluded due to various reasons: uncontrolled diabetes ($N = 2$), kidney stones ($N = 1$), cancer of the kidney ($N = 1$), and lost to follow up ($N = 1$). Therefore, a total of 76 participants were enrolled and randomized, with 38 participants assigned to each group. In the MED group, ($N = 4$) participants withdrew consent (1 due to disinterest, 2

due to relocation, and 1 due to work commitments), (N = 1) discontinued the intervention, and (N = 3) were lost to follow-up. In the MEDPH group, participants discontinued the intervention due to relocation (N = 2). Consequently, a total of 66 participants completed the study protocol, and analysis was done for the same. (MED group N = 30 and MEDPH group N = 36) (Fig. 1). The drop-out rates were higher in the MED group (21 %) than in the MEDPH group (5 %). Overall, the dropout rate was 14.08 %.

3.1. Baseline Demographic and Clinical Characteristics

Table 1 outlines the baseline characteristics of both the MED group and the MEDPH group. There were no significant differences between the groups in age, BMI, religion, marital status, smoking, or alcohol history. A slightly higher percentage (28.8 %) of those above 65 years were found in the MEDPH group, with no significant difference. During the pre-assessments, there were no significant differences observed in IPSS, PSQI, uroflowmetry results, USG KUB, blood investigations (urea, creatinine, glycosylated haemoglobin, haemoglobin, total leukocyte count, and differential counts), and urine analysis test except for

amorphous material in urine between both groups. Both groups had co-morbidities. The most common co-morbidities in both MED and MEDPH groups were hypertension (46.67 % and 36.11 %) and diabetes mellitus (36.67 % and 44.44 %), respectively. (supplementary file).

3.2. IPSS

Table 2, There were significant differences in the severity of LUTS before and after treatments in both the MED ($\chi^2 = 21.82, p \leq .001$) and the MEDPH Group ($\chi^2 = 43.20, p \leq .001$). In the MED group, the number of participants with moderate severity of LUTS decreased from 30 before treatment to 14 after five weeks, while the number of mild LUTS participants increased from 0 to 16. Similarly, in the MEDPH Group, the number of participants with moderate severity of LUTS decreased from 36 before treatment to 9 after five weeks, with an increase in mild LUTS participants from 0 to 26. The post-treatment mean IPSS scores for the MED group were $7 (\pm 4.44)$, while for the MEDPH Group, were $6.47 (\pm 4.53)$. Statistical analysis using the Mann-Whitney U test indicated that there were non-significant differences between the two groups ($U = 496.5, p = .574$).

Table 1
Baseline Demographic & Clinical Characteristics.

	Category	MED Group (N)	%	MEDPH Group (N)	%	Statistics
Age	Above 65	14	21.2	19	28.8	$X^2 = .244^{ns}$
	65 & below	16	24.2	17	25.8	
Religion	Hindu	29	96.7	34	94.4	$X^2 = .186^{ns}$
	Muslim	1	3.3	2	5.6	
Marital Status	Single	1	3.3	2	5.6	$X^2 = 4.150^{ns}$
	Married	28	93.3	27	75	
	Widower	1	3.3	5	13.9	
	Divorced	0	0	1	2.8	
	Separated	0	0	1	2.8	
Smoking Habit	Yes	2	6.7	2	5.6	$X^2 = 2.700^{ns}$
	No	28	93.3	30	83.3	
	Ex-Smoker	0	0	3	8.3	
Alcoholic	Yes	2	6.7	3	8.3	$X^2 = .974^{ns}$
	No	28	93.3	31	86.1	
	Ex-alcoholic	0	0	1	2.8	
BMI Classification	Underweight	0	0	1	1.5	$X^2 = 5.615^{ns}$
	Healthy Weight	8	12.12	12	18.2	
	Over Weight	20	30.30	15	22.7	
	Obesity	2	3	8	12.1	
Comorbidities	Hypertension	14	46.67	13	36.11	$X^2 = 0.754^{ns}$
	Cerebro vascular Accident	3	10	2	5.56	
	Diabetes Mellitus	11	36.67	16	44.44	
	Coronary Artery Disease	2	6.67	4	11.11	
	Thyroid	3	10	2	5.56	
IPSS	Variable	Mean	S.D	Mean	S.D	Manwhitney U
	IPSS Total	12.77	3.77	13.78	3.58	425.50 ^{ns}
	UQOL	4.17	0.99	4.22	1.02	520 ^{ns}
PSQI	Global PSQI	6.40	3.61	7.05	3.74	484 ^{ns}
	Subjective Sleep Quality	1.10	.40	1.28	0.66	485 ^{ns}
	Sleep Latency	1.03	.96	1.36	1.17	463.5 ^{ns}
	Sleep duration	1.47	1.04	1.50	1.16	532 ^{ns}
	Sleep Efficiency	1.17	1.18	1.22	1.15	520 ^{ns}
	Sleep disturbances	1	0.27	0.94	0.33	511 ^{ns}
	Sleep Medication	0.2	.76	0.02	.17	518 ^{ns}
	Daytime Dysfunction	0.43	0.77	0.72	0.74	518 ^{ns}
	Uroflowmetry	Voided volume	296.03	221.31	255.25	214.04
Qmax		30.50	17.78	27.97	18.46	466 ^{ns}
Qavg		7.30	8.60	5.81	5.39	486.5 ^{ns}
Tmax		17.56	25.67	12.19	16.13	515.5 ^{ns}
Voiding Time		53.97	38.20	47.01	32.53	484.5 ^{ns}
Flow time		44.77	32.53	39.39	29.40	487.5 ^{ns}
USG-KUB	Pre voided Volume	280.77	172.29	320.06	210.95	480 ^{ns}
	Post Void Residual	54.16	53.72	101.23	173.54	446.5 ^{ns}
	Size of Prostate	26.24	11.02	33.58	16.67	413 ^{ns}
Blood Investigation	Urea	21.81	6.06	24.87	9.11	438 ^{ns}
	Creatine	0.92	0.21	0.98	0.88	518.5 ^{ns}
	HbA1C	6.75	1.42	6.59	1.41	477.50 ^{ns}

BMI, Body Mass Index; IPSS, International Prostate Symptom Score; PSQI, Pittsburgh Sleep Quality Index; USG-KUB, Ultrasonography-Kidney, Ureter and Bladder; Qmax, Maximum flow rate; Qavg, Average flow rate; Tmax, Time to max flow; HbA1C, Glycosylated Haemoglobin; ns, not significant ($p \geq .05$).

Table 2
Primary and Secondary outcome.

Variables	Categories	MED Group		MEDPH Group		
		Baseline	Study Completion Visit	Baseline	Study Completion Visit	
IPSS(N = 66)	Severity of LUTS	Mild (0 –7)	0	16	0	26
		Moderate (8 –19)	30	14	36	9
		Severe (20 –35)	0	0	0	1
	Statistics	$\chi^2 = 21.82, p \leq .001$		$\chi^2 = 43.20, p \leq .001$		
UQOL	< 4	6	24	12	33	
	≥ 4	24	6	24	3	
	Statistics	McNemar= .000		McNemar= .000		
Uroflowmetry (N = 66)	Voided Volume	< 200	13	13	20	16
		≥ 200	17	17	16	20
		Statistics	McNemar= 1		McNemar= .424	
	Q Max	< 10	4	4	6	5
≥ 10		26	26	30	31	
Statistics	McNemar= 1		McNemar= 1			
PSQI(N = 66)	PSQI	Good	11	17	9	19
		Poor	19	13	27	17
		Statistics	McNemar= .146		McNemar= .013	

IPSS, International Prostate Symptom Score; LUTS, Lower Urinary Tract Symptoms; UQoL, Quality of Life due to urination; Q max, Maximum flow rate; PSQI, Pittsburgh Sleep Quality Index.

However, significant reductions in pre-post differences were observed for incomplete bladder emptying ($z = 2.45, p = .014$) and intermittency (Wilcoxon $z = 3.19, p = .001$) in the MEDPH Group. Specifically, the mean scores for incomplete bladder emptying and intermittency in this group changed from 1.89 (± 1.83) and 1.36 (± 1.41) respectively, before treatment to 0.64 (± 1.44) and 0.50 (± 1.00) after treatment (Table 3).

UQoL was enhanced among both groups (McNemar=.000). In the MED group, the number of participants whose UQoL score was less than 4 was 6 before treatment, and it has enhanced to 24 after treatment. The number of participants whose UQoL score was less than 4 was 12 before treatment, and it has been enhanced to 33 after treatment in the MEDPH Group (Table 2). The difference between the groups after treatment was marginally significant ($U=395, p = .054$).

3.3. PSQI

The PSQI significantly improved in the MEDPH group (McNemar=.013), while there was no significant change observed in the MED group (McNemar=.146) after the treatment (Table 2). When considering the pre-post changes in median sleep sub-scores, subjective sleep quality (Wilcoxon $Z = 2.968, p = .003$), sleep latency (Wilcoxon $Z = 3.229, p = .001$), and sleep duration (Wilcoxon $Z = 2.558,$

$p = .011$) scores were significantly reduced in the MEDPH group. Conversely, there were no significant reductions in these areas in the MED group (Wilcoxon $z = 1.13, p = .257$; Wilcoxon $Z = 1.508, p = .132$; Wilcoxon $z = 1.155, p = .248$). Both groups experienced significant reductions in sleep efficiency and daytime dysfunction. (Fig. 2).

Fig. 3, presents the alterations observed in the PVR. A notable finding is a significant increase in PVR in the MED group (Wilcoxon $Z = -2.335, p = .02$), whereas there was a reduction in the MEDPH Group (Wilcoxon $Z = -.445, p = .657$), however, both groups did not exhibit a significant difference (ManWhitney, $U = 507, p = .812$) between the groups. Prostate size after treatment did not exhibit a significant difference (ManWhitney, $U = -1.617, p = .126$) between groups.

3.4. Chakra assessment among MEDPH group

The Kruskal-Wallis’s test revealed significant differences in *chakra* diameters before ($\chi^2 = 41.29, p < .001$) and after ($\chi^2 = 138.84, p < .001$) PH among LUTS participants. Post hoc analysis with pairwise comparisons using the Bonferroni correction indicated that the diameters of the Meng Mein and spleen *chakras*, as perceived by the healer using the assumed ruler, were significantly lower after PH compared to the basic *chakra* (Fig. 4).

For *chakra* intensity, there was no significant difference ($\chi^2 = 13.03,$

Table 3
Change in Sub items of International Prostate Symptom Score.

Variables	Before Treatment		After treatment		Post Group Difference ManwhitneyU	Statistics	
	MED Group (N = 30)	MEDPH Group (N = 36)	MED Group (N = 30)	MEDPH Group (N = 36)		Pre-post Difference	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD		MED Group	MEDPH
					Wilcoxon Z		
IPSS Total	12.77 ± 3.77	13.78 ± 3.58	7 ± 4.44	6.47 ± 4.53	496.50 ^{ns}	4.45 ***	5.12 ***
IPSS-storage	8.33 ± 3.48	8.64 ± 3.26	5.03 ± 2.82	4.67 ± 3.04	514 ^{ns}	4.24 ***	4.76 ***
IPSS-voiding	4.43 ± 4.24	5.13 ± 3.27	1.97 ± 3.10	1.81 ± 2.28	492.50 ^{ns}	3.28 ***	4.34 ***
UQOL	4.17 ± 0.99	4.22 ± 1.08	2.63 ± 1.38	1.94 ± 1.17	U= 395 ^{ns}	4.08 ***	5.05 ***
Incomplete bladder emptying	0.67 ± 1.26	1.89 ± 1.83	.37 ± .89	0.64 ± 1.44	500 ^{ns}	1.27 ^{ns}	2.45 *
Frequency	3.53 ± 1.76	3.66 ± 1.79	2.53 ± 2.14	2.00 ± 1.80	463.50 ^{ns}	2.99 **	3.83 ***
Intermittency	1.27 ± 1.80	1.36 ± 1.41	.63 ± 1.25	0.50 ± 1.00	537.50 ^{ns}	1.83 ^{ns}	3.19 ***
Urgency	2.23 ± 1.99	3.67 ± 1.79	.47 ± 1.31	2.00 ± 1.80	496.50 ^{ns}	3.641 ***	3.56 ***
Weak Stream	1.933 ± 1.84	2.17 ± 1.05	.733 ± 1.17	0.47 ± .91	500 ^{ns}	2.97 **	4.23 ***
Straining	.57 ± 1.39	0.44 ± 1.05	0.23 ± .94	0.33 ± .99	504.50 ^{ns}	1.63 ^{ns}	.51 ^{ns}
Nocturia	2.57 ± 1.26	3.08 ± 1.44	2.03 ± 1.10	2.03 ± 1.23	536 ^{ns}	2.63 **	4.04 ***

IPSS, International Prostate Symptom Score; UQOL, Quality of Life due to urination

*, $p \leq .05$; **, $p \leq .01$; ***, $p \leq .001$; ns, not-significant.

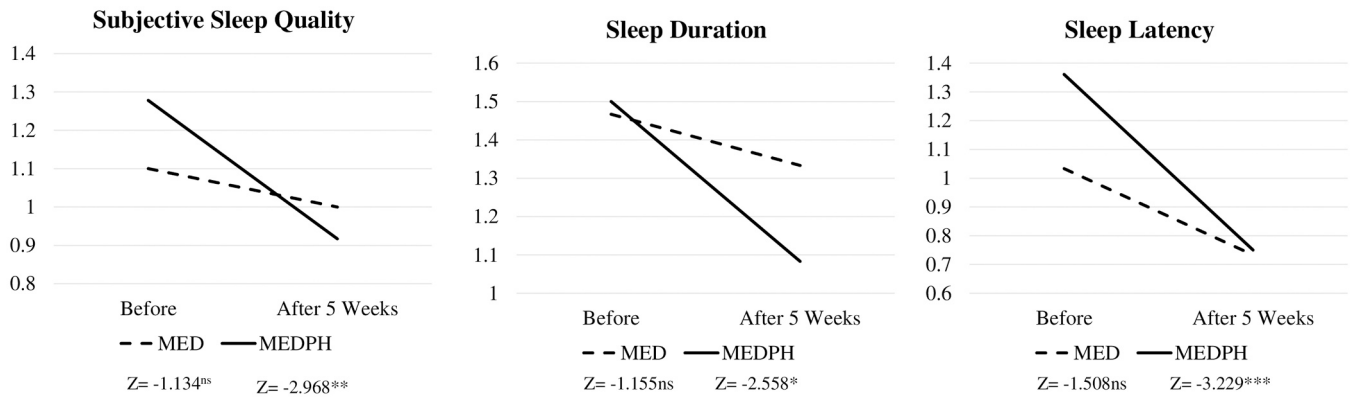


Fig. 2. PSQI Scores.

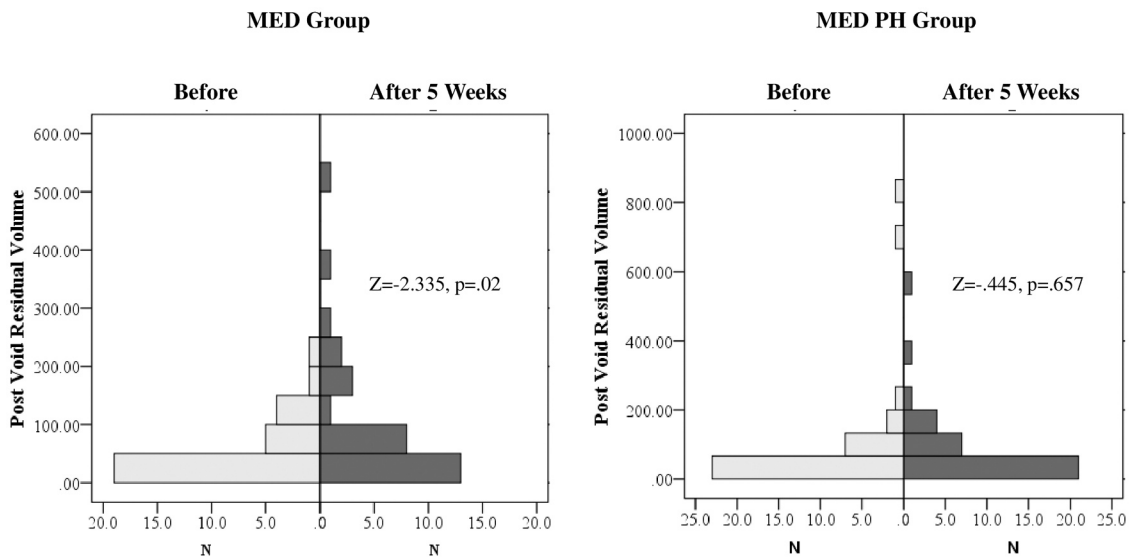


Fig. 3. Post Void Residual.

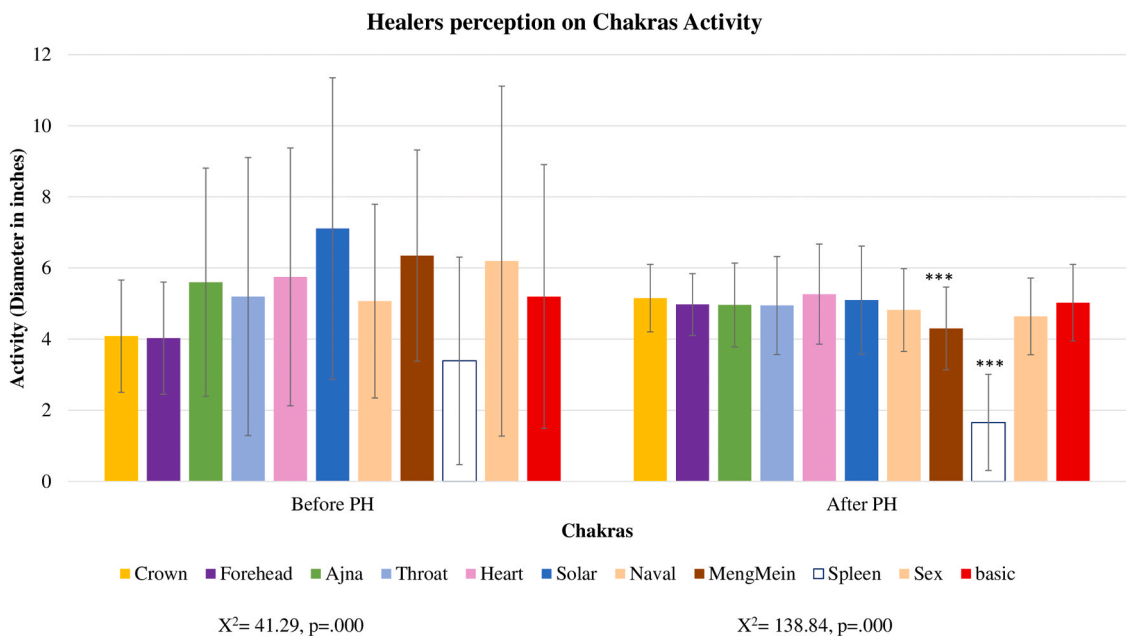


Fig. 4. Chakra Activity.

$p = .222$) in the energy intensities felt by the healer (using a Likert Scale) before PH. However, significant differences ($\chi^2 = 115.89, p \leq .001$) were reported in the energy intensities of different *chakras* after PH among LUTS participants. Post hoc analysis with the Bonferroni correction indicated that the intensities of the solar, navel, Meng Mein, spleen, and sex *chakras* were significantly lower compared to the basic *chakra*. Additionally, the intensity of all *chakras* significantly increased after PH ($p \leq .05$) (Fig. 5).

The association of *chakra* activation levels under experimental conditions (before and after PH) was evaluated using a chi-square test. The Crown ($\chi^2 = 16.65, p \leq .001$), Forehead ($\chi^2 = 10.632, p = .005$), Throat ($\chi^2 = 8.172, p = .017$), Solar Plexus ($\chi^2 = 9.76, p = .008$), and Naval *chakras* ($\chi^2 = 12.35, p = .002$) showed significant shifts towards more balanced (moderate or normal) activity levels, with more values moving into the normal range and fewer in the Underactive and Overactive ranges. However, the Spleen *chakra* ($\chi^2 = 42.135, p \leq .001$) showed an increase in underactive values after PH. The Meng Mein ($\chi^2 = 5.25, p = .073$), Ajna ($\chi^2 = 5.90, p = .052$), and Heart ($\chi^2 = 5.39, p = .067$) *chakras* showed marginal significance. Overall, there was an increase in the number of participants with moderate or normal activations except meng main *chakra*.

3.5. Correlation of chakra assessments and urinary parameters

Pranic healers rated the energy intensity in different *chakras* or energy centres using biofield forms before the first PH session. The relationship between ultrasound reports and *chakra* assessment showed a positive correlation between the size of the prostate gland on the Meng Mein *chakra* ($\rho = .357, p \leq .05$) and the basic *chakra* ($\rho = .396, p \leq .05$). After PH sessions, pre-void volume was positively correlated with the intensity of sex *chakra* energy ($\rho = .378, p \leq .05$). The association between uroflowmetry and *chakra* assessment shows a positive correlation between pre-void volume and the energy intensity in the basic *chakra* ($\rho = .349, p \leq .05$), pre voiding time and the basic *chakra* ($\rho = .361, p \leq .05$), and pre-flow time on the navel *chakra* ($\rho = .355, p \leq .05$) and the basic *chakra* ($\rho = .448, p \leq .01$).

3.6. Qualitative analysis

Table 4 shows the experiences of the participants who received PH as an intervention for LUTS. The efficacy of PH interventions was assessed based on diverse experiences and feedback reported by participants. The content analysis has yielded two major categories, such as healing experiences and feedback.

3.6.1. Main Category 1: The healing experiences are categorized as follows

3.6.1.1. Generic Category 1: Positive Experiences. Study participants described a variety of positive experiences that indicated an improvement in their overall well-being after receiving the PH Sessions. This category encompasses four subcategories, such as positive affective experiences, positive physical sensations, positive valued experiences, and spiritual experiences. Overall, experiences from these categories state, feeling liberated from life's worries and sorrows, experiencing a sense of freshness, calm, and peace of mind, sensations of vitality and rejuvenation in the body, feeling energised and motivated to engage in various life pursuits, and experiencing divine power.

3.6.1.2. Generic category 2: energy experiences. Participants also reported unique energy experiences during healing. Some described an awareness of the presence and movement of energy. Participants felt like a kind of life-force entering the body, etc. They also noted physical sensations of energy such as tingling sensations in the muscles and palms, light being seen when the eyes are closed, a sensation of vibration, the presence of pressure circling in the hand, etc. Some participants experienced a sensation of warmth at the bottom of their feet while healing.

3.6.1.3. Generic category 3: awareness experiences. Participants had an awareness of their current mental state while receiving the PH. They reported moments of increased mindfulness, where they were more attuned to their thoughts and emotions. Some of their expressions involves things like having no thoughts or worries about the outside world in the mind, mind is refreshed and full of energy, experiencing a state beyond sleep, etc.

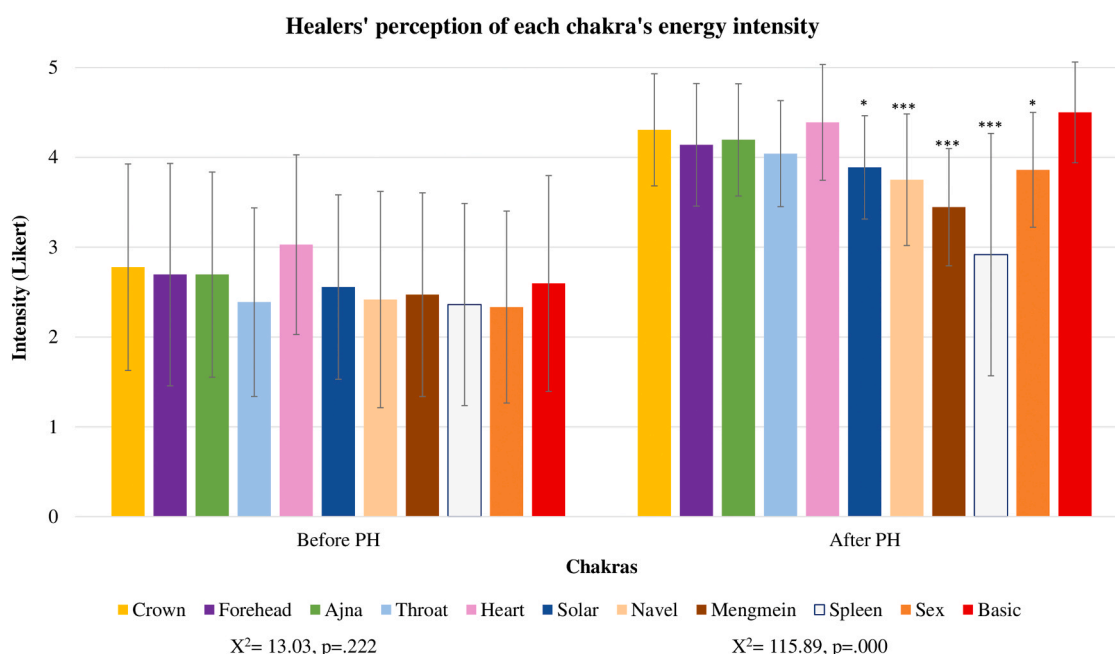


Fig. 5. Chakra Energy Intensity.

Table 4
Qualitative Analysis of MEDPH group.

Main categories	Generic categories	Subcategories and expressions
<u>Healing experiences</u>	Positive experiences	a. Positive affective experiences: felt positive vibes; calm, feeling fresh; peaceful; relaxed mind; free from stress; felt happy; tension-free; relief; pleasant mood with positive thoughts.
		b. Positive physical sensation: lightness in the body; energy/strength was getting filled into the body; body felt energised; bright light on my face was noticed; I saw the highest glow in front of my eyes; body becoming light with absolutely no pain; relaxation in the body.
		c. Positive valued experiences: Confidence level increased; patience increased; brighter and enthusiastic in all the work as compared to before; helped to be active; have an interest while doing any work and doesn't get distracted; optimistic, self-focused; reassured; motivated to do daily activities more enthusiastically.
		d. Spiritual experiences: Sense of divine power; filled with devotion; devotion towards God has increased; feeling like telling/talking with God; I would like to know who am I.
Energy experiences		a. Awareness of the presence of energy: I felt like energy was going through the body and something was going out; I observed that positive energy entered body twice; I felt like a kind of spirit was entering the body.
		b. Physical sensation of energy: Tingling sensation in the calf muscle and palm; light is seen when eyes are closed; tingling sensation just below the navel area; felt sensation of vibration; presence of pressure; extra weight on hands; blue colour was visible.
		c. Awareness of temperature variation: Warmth in the bottom of feet
Awareness experiences		a. Awareness of mental activities: no thoughts about the outside world/ no thoughts in the mind; can control my mind; mind becomes blissful while doing; able to concentrate; mind is refreshed; lightness of mind; experiencing a state beyond sleep; mind feels like a blossoming flower; the fear of disease is not there now; no other stressful thoughts with closed eyes.
Tangible outcomes		a. Health benefit : a.1 Relief from other health issues: Healthy compared to before; peaceful and good sleep, constipation became normal; leg pain reduced, blood glucose level reduced; left leg toes are normal; swelling on ankles reduced; tiredness reduced; knee pain reduced, palpitation reduced; body pain reducing; itching in the right hand reducing; back pain has reduced; throat pain reduced; reduction in headache; able to walk easily; doing the work quickly; increased appetite; and intake of food increased. a.2 Relief from urinary symptoms: urination frequency reduced and able to control; urine leak has stopped; burning micturition reduced; urination has become

Table 4 (continued)

Main categories	Generic categories	Subcategories and expressions
<u>Feedback</u>	Feedback about study programme	normal; painful urination has come down; urination speed has increased; earlier I used to urinate 3 –4 times during the night, now it has reduced; can pass urine within 30 s; I do not feel like urine is still remaining in the bladder; urine flow improved.
		b. Resolution of the problem: No desire to drink alcohol (freedom from addiction); attitude and behaviour have changed; activities of daily living have improved; and helping family and wife in household work.
		c. Prosocial tendencies: would like to preserve humanity and morals, forgiving family members; motivated by a desire to contribute to the well-being of others and seeking genuine social connections; being part of social service; mingling with all; being more interested in social contacts; meeting new friends; and thinking of working for others; few relations were not good earlier, it is good after PH session.
		a. Feedback on healing system: Harmless; peace keeping system; its good one, to stay away from all bad habits; silence atmosphere during session is very peaceful; I would learn PH and practice it, if I continue this treatment, I never get problems again; to take Pranic healing treatment in future; wonderful session and beautiful experience; it's a good solution for mental stress and physical illness; it works in a social manner and builds better society.
		b. Feedback on one's body and mind status: Activating 'prana' which is cosmic energy; concentration with respect to <i>pancha bhootas</i> (five basic elements as per ayurveda); a beautiful and joyful experience; the doubts are cleared, and it is a very soothing experience; helps to attain a happier state.

3.6.1.4. *Generic category 4: tangible outcomes.* Receiving PH yielded tangible outcomes that positively impacted participants' lives. These outcomes included improvements in both intra-personal and inter-personal domains, as well as noticeable health benefits. The participants reported an overall improvement in their health. Additionally, they described a resolution to various personal and familial problems, including financial issues. Furthermore, healing has fostered prosocial tendencies, with participants expressing a desire to preserve humanity and morals and work towards others' wellbeing.

3.6.2. *Main category 2*

Apart from reported experiences, some participants expressed feedback on PH sessions they have received. The feedback is categorised as follows.

3.6.2.1. *Generic category 5.* Feedback on the Study Programme: The feedback of the participants on the PH session highlights the effectiveness and positive impact of the healing system, not only in addressing physical ailments but also in promoting mental well-being and personal growth. Participants expressed a desire to continue with the treatment due to its perceived benefits for both the body and mind.

3.7. Adverse events

There was no serious adverse event in either group.

4. Discussion

In this study, we evaluate the comprehensive effects of PH on participants with LUTS utilizing a range of assessments such as the International Prostate Symptom Score, ultrasound imaging, uroflowmetry parameters, the Pittsburgh Sleep Quality Index, and chakra measurements, we offer a thorough understanding of how PH influences both the physical and energetic dimensions of health. The following sections present the significant findings, emphasizing the amelioration of LUTS, enhancements in quality of life, and the interaction between bio-energetic fields and physiological conditions.

4.1. Bothersome urination

This study primarily focused on the changes in LUTS assessed subjectively using the validated IPSS questionnaire. IPSS is a convenient tool for the assessment of BPH-specific symptoms to evaluate the treatment outcome.³¹ There was a significant decrease in IPSS score from baseline to the end of treatment in both groups, indicating amelioration of BPH symptoms. It was important to note that there was a significant change in incomplete bladder emptying and intermittency in the MEDPH group. This specific improvement highlights the intervention's effectiveness in addressing voiding-related LUTS, which are often bothersome symptoms for individuals. Furthermore, the findings related to ultrasound parameters are noteworthy outcomes, i.e., PVR reduced in the MEDPH group whereas it increased in the MED group. Though they did not exhibit a significant difference, the reduction in the PVR indicates improved bladder emptying post-intervention, which is the most important aspect of managing LUTS and preventing complications such as urinary retention⁴⁰. When tai chi was given for 12 weeks, it resulted in significant improvement in IPSS score and quality of life score in elderly patients⁴¹. In another study, a four-week randomised controlled trial comparing Thai massage to tamsulosin demonstrated its effectiveness in treating LUTS⁴². By targeting specific energy centres or *chakras* associated with the prostate and urinary system, PH may help restore balance and optimise the flow of energy within the body. This balancing of energy could potentially alleviate blockages or disruptions contributing to urinary symptoms in BPH participants. A study reveals that patient with LUTS experience depression, anxiety, or stress symptoms, underscoring the importance of recognising and treating these issues⁴³. PH was found to be effective in treating mild to moderate depression when used as an adjunct therapy²⁵. Chronic stress has been linked to the exacerbation of LUTS and may contribute to symptoms such as urgency and frequency. By inducing a state of relaxation and reducing stress levels, PH may help mitigate the impact of stress on urinary symptoms. The long-term cost of managing LUTS is expensive⁴⁴, as PH offers simple and effective techniques that anyone can learn and utilise for self-healing.

4.2. Quality of life due to urination

Additionally, there was a significant difference in the UQoL score in both groups, which emphasises the comprehensive effect on participants' overall well-being. This aligns with existing literature, demonstrating the beneficial effects of PH on quality of life across diverse population; an improvement in the quality of life and well-being of prison inmates⁴⁵, an enhanced quality of life among working women employees⁴⁶, and an improvement in quality of life among COPD patients²⁶.

4.3. Sleep quality

An important age-related issue is sleep. Sleep disturbances are more common in men with LUTS and affect quality of life. Hence, we have used PSQI to evaluate sleep over the past month. Our study showed marked improvement in global PSQI scores as well as in various components, including sleep quality, sleep latency, sleep duration, sleep efficiency, and daytime dysfunction, in the MEDPH group. Cleaning and balancing both the front and back solar plexus *chakras*, along with restoring the energy of the front and back heart *chakras*, can induce a sense of sleepiness. This process could potentially enhance the overall quality of sleep by promoting improved energy flow and balance throughout the body's energy centres. These improvements suggest that PH was found to be effective in improving overall sleep quality and reducing sleep disturbances in men with LUTS. A study has demonstrated significant benefits for overcoming insomnia, leading to enhanced well-being, productivity, and behavioural changes²⁷. An improvement in sleep quality and well-being among prison inmates following PH sessions was noticed by Jois⁴⁵. Biofield therapies like Qigong and Reiki were also found helpful in improving sleep quality, including sleep latency, sleep duration, sleep efficiency, sleep disturbances, the total score of the PSQI, anxiety, and depression in post-menopausal women. Reiki was found effective in balancing *chakras*^{47,48}.

4.4. Qualitative feedback

The qualitative results of this study reveal various positive experiences reported by participants, encompassing emotional, physical, and spiritual well-being indicators, in line with complementary medicine's holistic approach⁴⁹. The manipulation of energy during healing is crucial for restoring balance and well-being, leading to diverse sensations and perceptions of energy presence. These observations resonate with experiences detailed in other biofield studies, highlighting the universal nature of energy sensations across healing modalities. Participants also note mindfulness and mental clarity during healing sessions, aligning with research on mindfulness-based interventions and their benefits in stress reduction and well-being enhancement. Tangible outcomes reported by participants include improvements in health and relationships, reflecting holistic healing principles. The participants express satisfaction with PH interventions and express a desire for continued treatment, emphasising the importance of patient-centred care in complementary medicine^{38,50}.

4.5. Uroflowmetry and ultrasound

Uroflowmetry measures voided volume, Qmax, Qavg, T max, voiding time, and flow time. There was no statistically significant difference in either group in uroflowmetry parameters. Uroflowmetry parameters should be analysed when urine output is between 150 ml and 400–500 ml and PVR > 100 ml⁵¹. However, the inclusion of values below 150 ml and above 600 ml in this study may have influenced the outcomes. Prostate volume did not significantly differ in either group, where only alpha-blockers were administered to participants without 5 alpha-adrenergic blockers in our study. It is well established that prostate size typically reduces with the use of 5 alpha-adrenergic blockers over a longer time frame ranging from 6 months to 12 months⁵². Therefore, the lack of observable size reduction within the five-week period is understandable. Consequently, future studies should explore the combination of 5 alpha-adrenergic blockers over an extended duration.

4.6. Chakra Perception by Healers

In this study, healers measured the intensity and activity of *chakras*, observing a change in energy levels and *chakra* activity due to

medication and PH. Notably, a significant increase in the *chakra*'s energy levels was observed after practicing 45 min of nada yoga meditation using sound *Prana*⁵³. The interconnectedness of *chakra* activity, sensation experiences, and health was highlighted in a study by Sharma⁵⁴. In another study, the *chakra* energy was increased in response to an ancient healing practice⁵⁵, physical, psychological benefit through balancing the *Chakra* was evidenced⁵⁶. A biofield study showed a significant reduction in stress⁵⁷. Before treatment, intensity levels were lower, but they improved afterward, aligning with the health outcomes of LUTS participants. This study findings suggest that Pranic Healing significantly influences *chakra* diameters and energy intensities in LUTS participants. The balance of Basic, Sex, Navel and Solar plexus *chakras* in post-PH, alongside the overall increase in energy intensities, implies a harmonizing effect on the energy centres. Furthermore, the shift towards more balanced activation levels for *chakras* highlights the potential of PH.

4.7. Relation of Chakra on urinary parameters

Chakra theories suggest that the *Ida* and *Pingala* nadis carry energy along the spine, influencing all major *chakras* and acupoints.⁵⁸ The *Ida nadi* is linked to the parasympathetic system, which aids urination, while the *Pingala nadi* is linked to the sympathetic system, which aids urine storage.^{59,60} Research connects the acupoint UB 33 to bladder function and aligns the root *chakra* with the adrenal glands and pelvic nerve plexus, relevant to incontinence. Studies show that nerves in the pelvic area, connected to various organs, may correspond to the four petals of the *Muladhara Chakra*.⁶¹ In the current study, *Chakra* intensity are correlated to uroflowmetry and USG KUB parameters. Prostate size was linked with the *Meng Mein* and basic (*Muladhara*) *chakras*. After healing sessions, pre-void bladder volume was linked to sex *chakra* energy. Bladder control involves parasympathetic neurons from the sacral spinal cord (S2–S4), which innervate the bladder wall. Mechanoreceptors in the bladder send signals to the spinal cord and brainstem, coordinating bladder function. These findings suggest that *chakra* energy, especially in the basic, sex and navel *chakras*, influences urinary functions.⁶² This highlights the potential for integrating traditional medical practices with energy-based therapies.

Voiding diaries serve as a standardised tool to capture the frequency and volume of fluid intake and urine output³⁶. However, in our study, nearly half of the participants failed to complete the 24-hour voiding diary. This shortfall could be attributed to the demanding nature of maintaining the diary over a five-week period, especially for individuals who were illiterate or had occupational commitments. Additionally, we encountered inaccuracies and missing data in the entries made by certain participants, making it challenging to assess the reliability of the voiding diary data.

4.8. Implications

This study's findings suggest that incorporating PH along with conventional treatment for BPH could lead to better outcomes in managing LUTS. PH can be implicated in the overall well-being and quality of life of patients. PH prevents urinary retention, hence preventing complications of BPH. It underscores the importance of considering a holistic approach alongside conventional treatment.

4.9. Limitations

The limitations of the study were: a) Its short duration, spanning only 5 weeks of treatment, may not fully capture the sustained effects of PH as a complementary therapy for BPH, considering the progressive nature of the disease. b) A significant number of participants failed to complete the voiding diaries, and some entries appeared inaccurate, potentially compromising the reliability of the data collected from this aspect of the study. c) limited follow-up as this study does not include long-term

follow-up to assess the durability of the observed effects of PH on LUTS, sleep quality, and other outcomes. d) Higher dropout in the control group e) The study used a *chakra* assessment questionnaire, but its validity relied solely on face validity.

4.10. Conclusion

PH demonstrated effectiveness in reducing the severity of IPSS, improving sleep quality, and enhancing quality of life in BPH with LUTS. The combination of PH and conventional treatment may offer additional benefits in managing LUTS and improving quality of life.

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Ethical statement

This study was approved by the Independent Ethics Committee, World Pranic Healing Foundation India (IEC Ref No: 6/2022/29/12/2022). Informed consent was obtained from all the participants.

CRediT authorship contribution statement

Narendra Jogappanavar Basappa: Writing – review & editing, Supervision, Resources. **Roopa Nanjundaswamy:** Writing – original draft, Project administration, Data curation. **Srikanth Jois:** Writing – review & editing, Supervision, Funding acquisition, Conceptualization. **Vinu Vijayakumar:** Writing – review & editing, Validation, Software, Data curation. **Nagendra Prasad Krishnamurthy:** Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Srikanth N Jois reports financial support and article publishing charges were provided by World Pranic Healing Foundation India. Srikanth N Jois, Vinu V, Nagendra Prasad K, Roopa reports a relationship with World Pranic Healing Foundation India that includes: employment. Srikanth N Jois has patent Nil pending to Nil. Nil If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Future direction

Future research is needed with a large sample size, with multi-centre and a longer duration to confirm the underlying mechanism of action. Future studies on objective measurement on *chakra* may provide clearcut evidence on effectiveness of *chakra*.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.ctim.2024.103067](https://doi.org/10.1016/j.ctim.2024.103067).

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