

Effect of Tai Chi Exercises on Benign Prostatic Hyperplasia-Related Symptoms and Quality of Life among Geriatric Patients

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Abstract: Benign prostate hyperplasia (BPH) could be a major cause of lower urinary tract side effects disintegration in elderly men and have a negative effect on quality of life (QOL). Study aim: to evaluate the effect of tai chi exercises on the benign prostatic hyperplasia- related symptoms and QOL among geriatric patients. Design: Quasi-experimental research was designed. Settings: This study was conducted in the outpatient clinics, at the urology hospital, Assiut University, which has a high flow rate of elderly patients. The tai chi exercises were conducted on 70 geriatric patients with BPH. Sample: calculated by EPI info, using a confidence interval of 95% and 5% margin error it is estimated that 140 patients divided into 2 equal groups, a control and a case study group should be the rights were. Tools of the study: Three tools were used. Tool I: Geriatric patient's socio-demographic and clinical data structured interview schedule sheet, Tool II: International prostate symptom score (IPSS). Tool III: - Short form Quality of Life Scale for Patients with Benign Prostatic Hyperplasia (BPH-QLS). Results: The present results revealed that **there was** a statistically significant difference between the pretest and posttest **regarding IPSS level** $P=0.000$ for the study group. There were positive effects of tai chi exercises on BPH- related symptoms and positive effect on BPH-QOL among the study group compared to the control group as the number of patients who had high QOL score increased from 30% in the pretest to 85.7% in both the posttest & follow up. Conclusion: The findings of this study indicate that tai chi exercises had a positive effect on decreasing BPH-related symptoms and consequently improve physical, social, and psychological domains of quality of life among geriatric patients. Recommendations: In-service preparation program for the urology clinic medical attendants around the tai chi workout strategies are required to extend their mindfulness of its benefits for geriatric patients with BPH, giving a brochure or booklet to the medical caretakers, the elderly, and their caregivers in outpatients urology clinics approximately tai chi works out .Too we prescribe intermittent wellbeing instructive programs for geriatric patients almost tai chi works out to progressing BPH related side effects and QOL in other topographical regions.

Key Words: Tai Chi, Exercises, Geriatric, Benign Prostatic Hyperplasia (BPH), Quality of life (QOL).

1. INTRODUCTION

The prostate goes through two fundamental development periods as men ages. The primary is early in adolescence when the prostate copies in measure. The 2nd starts around the moment decade of age and proceeds amid most of a man's life. As men age, the prostate may get bigger. Benign prostate hypertrophy (BPH), could be a common issue in afterward life and it could be a major cause of lower urinary tract symptoms (LUTS) in geriatric men, and it related to numerous side effects such as urinary criticalness, urination reluctance, bladder brokenness and visit urination (Muscianisi et al., 2021).

BPH could be a major well-being issue among geriatric men, it is known that elderly with BPH and serious LUTS involvement impedances with exercises of everyday living, capacity to work, distress, limited socialization, travel, excursions, which lead to bring down QOL due to concerns approximately urinary work, humiliation almost urinary issues, and indeed mental issues. BPH is histologically apparent in up to

90% of men by age 85 a long time in Center East. As numerous as 14 million men in the Joined together States have indications of BPH. Around the world, roughly 30 million men have indications related to BPH (Wagner et al., 2023).

The causes of BPH have not however been clarified, but hereditary variables, nourishment as caffeine, liquor utilization, ruddy meat, immersed fat, canned nourishment and juice, the need to work out, racial contrasts, and persistent sicknesses, such as tall blood weight and diabetes, are accepted to play a part. From 60% to 70% of men over 60 have tall blood weight, and over 50% of tall blood weight patients appear irregular histological discoveries or side effects of prostate hypertrophy (Calogero et al., 2023).

These manifestations with age, appear that hyperactivity of the autonomic apprehensive framework and hyperinsulinemia play critical parts in the worsening of LUTS due to BPH. Also, increased physical action encompasses a negative relationship with LUTS and BPH indications. Based on these discoveries, working out appears exceptionally vital for patients with BPH since light physical exercises will move forward circulation and decrease affront resistance and the movement of the autonomic apprehensive framework. In any case, the sort, time, and concentration of working out best suited for the mitigation of LUTS due to BPH have not however been examined (De Jonge, et al., 2023).

Tai chi works out may be a sort of suggested workout appropriate for progressing geriatric men's cardiopulmonary work and muscle quality and for diminishing pressure, uneasiness, and disposition disarranges. In any case, the elderly do not utilize or hone it since they are not mindful of its' benefits. Tai chi has drawn consideration since it is simple to memorize, reasonable, and can be performed anywhere. Tai chi is successful in moving forward autonomic apprehensive system-related maladies within the elderly by advancing the movement of the parasympathetic anxious framework and diminishing the energy of the thoughtful apprehensive framework (Lundy et al., 2023).

Gerontological nurse part incorporate arranging for particular tai chi plan, recurrence, and empower the elderly to hone their work out at domestic utilizing the direct book; moreover, she ought to watch the elderly some time recently, amid and after work out implantation (Mourão et al., 2022).

1.1 Significance of the Study

The predominance of BPH in Center Eastern nations ranges from 13.84% to 23.79%. BPH features a negative effect on QOL and is related to high levels of co-morbid infections, showing a ought to a superior understanding of the administration of the illness to decrease the effect on healthcare frameworks (**Amr et al., 2022**).

BPH and its related LUTS genuinely influence both the physical and mental wellbeing of more seasoned men. Tai chi moves forward LUTS and QOL in elderly patients with BPH. (**Chen et al., 2021**) So, the present study ought to detect the effect of tai chi on LUTSs among geriatric patients.

1.2 Aim of the Study

This study was conducted in attempt to cover the following aims

General objectives

Improve QOL and BPH-related symptoms among geriatric patients.

Specific objectives

1. To determine the effect of tai chi exercises on BPH-related symptoms among geriatric patients.
1. To determine the effect of tai chi exercises on QOL of geriatric patients suffering from BPH-related symptoms.

1.3 Study Hypothesis

1. Geriatric patients who perform the tai-chi exercises will experience BPH-related symptoms more than the control group.
2. Geriatric patients who perform the tai-chi exercises program will have better QOL more than the control group.

Null hypothesis

- There will be an improvement in geriatric patients' QOL and symptoms after the tai chi exercises implementation.

2.SUBJECTS AND METHOD

Subjects and Methods of the current study were portrayed under the following designs:

- 2.1. Technical design
- 2.2. Operational design
- 2.3. Administrative design
- 2.4. Statistical design

2.1 Technical Design

The technical design of this study includes description of the research design, study setting, subjects, and tools of data collection.

• Research design

Quasi-experimental research design was used to conduct the study.

• Study Setting

The study was conducted at the urology hospital. This hospital is affiliated with the main Assiut University hospital and consists of 10 floors, the ground floor has several urological outpatients' clinics & unit for x-rays, and the rest of the floors from the 3rd floor to the 6th floor are inpatients wards for male and female patients, and the 8th and 9th floors for urological surgery unit.

The study was conducted at two outpatient clinics [BPH clinic and general urology clinic). The hospital provides different health care services for elderly patients which has a higher flow rate of elderly.

• Study Subjects

Sample type: Convenience sample was used in this study.

Sample size

The total number of geriatric patients attending to BPH clinic was around 220 every year. The sample size of the study was calculated by using the software EP/Info, version 3 with a 95% confidence interval (CI) and 5% margin error [10 elderly patients] which estimated sample size was 140 geriatric patients divided into 2 groups, one group was case (study) group consisted of 70 elderly patients and other group was control group consisted of 70 elderly patients and add 20 patients to compensate the dropout.

Inclusion criteria:

- Geriatric patients aged 60 years and above.
- Alert and able to communicate.

Exclusion criteria:

- With fixed catheter for retention
- Free from psychiatric or other urological disorders such as stones and tumors.
- Not receiving antibiotics

Tools of data collection: three tools were used in this study

Tool (I): Geriatric Patient's Socio-demographic and Clinical data Structured Interview Schedule Sheet: It was developed by the researchers after reviewing related literature and included the following parts:-

Part I:- Socio-demographic characteristics of geriatric patients as, age, residence, marital status, level of education, occupation, person sponsoring him, and income. Also, it includes social activities visits such as family visits, family and friends support, and social activities participation.

Part II: Health history of geriatric patients such as type of chronic disease,

such as hypertension, diabetes mellitus, cardiovascular disease, and osteoarthritis, medications used, and their numbers.

Tool (II): International prostate symptom score (IPSS) (Choi et al., 1996):- This instrument is utilized to evaluate LUTS caused by prostatic hyperplasia. It comprises of 7 things: 3 items for storage symptoms and 4 items for voiding symptoms. Each item has six answers, "not at all" is scored as 0, "1 in 5 times" is scored as 1, "1 in 3 times" is scored as 2, "1 in 2 times" is scored as 3, "2 in 3 times" is scored as 4, and "almost always" is scored as 5. **Scoring:-**The total score ranged from 0- 35 and classified into:-

- 0 to 7 mild symptoms,
- 8 to 19, moderate symptoms
- 20 to 35 severe symptoms.

IPSS reliability

IPSS is a reliable tool in which Cronbach's α coefficient was >0.8 .

Tool (III):- Short form Quality of Life Scale for geriatric Patients with Benign Prostatic Hyperplasia (BPH-QLS) (Guo et al., 2009):

The brief frame of BPH-QLS may be a scale utilized to inquire about QOL among geriatric with BPH and it comprises five spaces (disease, physical, social, psychological, satisfaction) and 33 things, questions related to infections as solid encourage want to urinate, the sensation of not purging bladder totally after urinating, aversion for urination to begin and spilling and wetting pants several minutes after wrapping up urinating, moreover, it incorporates questions related to physical space as the capacity to perform day by day exercises exterior, moving things heavier than 10 kg, questions related to social as feeling awkward when going exterior or traveling, and feeling humiliated when contact with companions, questions related

to mental as feeling sad and discouraged. Each item had five answers “strongly agree” is scored as 1, “agree” is scored as 2, “neutral” is scored as 3, “disagree” is scored as 4, and “strongly disagree” is scored as 5.

Scoring system

Patients were asked to select the relevant point on the scale based on their perceptions. Primitive scores were summated. After the summation of scores; the higher score indicated a better quality of the patient's life.

BPH-QLS reliability

The test-retest CC was 0.858 for outpatients (not surgical), Cronbach's α coefficient was 0.952, providing evidence that the short form of BPH-QLS was stable and reliable in the light of generally recognized criteria and if good reliability is deemed as a test-retest CC of >0.7 and $\alpha >0.8$

Validity of the tools: - The tools were tested for content validity by a panel of five experts from the Gerontological Nursing Department, Faculty of Nursing, Assiut University. The required modifications were done according to their recommendation.

Methods

2.2. Operarional Design

This design involves a description of the preparatory phase and the actual phase.

- **Preparatory phase:**

The researchers conducted an intensive review of the past and current literature covering various aspects of BPH among geriatric patients. This was done using available textbooks and articles in scientific periodicals and journals. Based on this review the tools were prepared in their preliminary forms and reviewed by a panel of nursing and medical specialist professors for face and content validation.

- **Pilot study**

The pilot study was carried out before starting data collection on (10% of geriatric participants) who were excluded from the study. The aim of the pilot study is to test the clarity of the tools and to estimate the time needed to fulfill it. Based on the results of the pilot study, the necessary modifications in the sheets were done.

- **Data collection phase (Fieldwork)**

The researcher began collecting data over one year from the 15th of August 2022 to the 15th of August 2023. After receiving permission to perform the study, The researcher visited the urological clinics 2 days per week (Monday and Wednesday), 2-3 hours each day according to the clinic timetable. The interview schedule was filled by the researcher. The length of each interview took from 25-30 minutes. The researcher was available in the urological clinic to answer any questions and for further explanations. The tai chi exercise was implemented on the study group only (70 geriatric patients) in addition to routine urology care while the control group (70 geriatric patients) receive the routine urology care only and the researcher put them to the pre, post, and the follow up test without conducting tai chi exercises. The study group was divided into 16 subgroups; each subgroup consisted of 3-4 geriatric patients. Each group was met 2 days/week to implement the program at 4 sessions/week each session took 2-3 hours, with a break every hour.

The researcher agreed with the patients on the selected appropriate time to meet according to the clinic timetable. The researcher met the geriatric patients, introduced herself, and explained the purpose of the study then asked the geriatric patients to participate in the study after assuring the confidentiality of their data. According to the following sequence the researcher started the tai chi exercise implementation:

The 1st session (orientation session): began with the orientation of the geriatric patients about the tai chi exercise and the pretest was done. Tai chi exercises include; warm up, windmill exercises, closing posture, shooting the bow, self-meditation, and arm and hand exercises. Geriatric patients were taught tai chi exercises and instructed to do these exercises at home twice daily for one week.

The 2nd session: began with the repetition of tai chi exercises to ensure that the geriatric patients learned it well and then they were instructed to do these exercises at home twice daily for three weeks.

The 3rd session: after completion one month after the beginning of exercises to re-demonstrated the tai chi exercises and post-test was done using (Tool II & Tool III) after the implementation session.

The 4th session: one month after the follow up test using (Tool II & Tool III) was done.

The Tai Chi Exercises

The researcher demonstrated to the geriatric patients who accepted to participate in the study the following exercises, warm up, windmill exercise, closing posture, shooting the bow, self-meditation, and arm and hand exercise. The researcher prepared a booklet including summarized simple information about BPH definition, causes, types, signs, and symptoms, complications, and treatment, which was given to every study group (70 elderly) to be used as a handout .

Tai Chi Exercises Phases

I-Assessment phase

This phase was done for both (the study and control group) to assess geriatric patients socio-demographics and medical history by using (Tool I). Also will assess Lower Urinary Tract Symptoms (LUTSs) by using (Tool II IPSS) and assess geriatric patient BPH-QOL by using (Tool III).

II-Planning phase:

The arrangement of conducting the exercises was done during this stage; the sessions and time of the sessions were decided. Other facilities were checked and arranged during this phase as the teaching place, time, teaching methods, and audiovisual aids.

- **Tai chi exercises time:** The time of teaching was decided according to the clinic time and the coordination between the researchers and the directors of the outpatients clinics, including 2 days/ week, about 2 to 3 hours every day.
- **Place:** The tai chi exercises were conducted in urological outpatients clinics. This arrangement was done with the director of the urology hospital.
- **Teaching methods and materials:** It was prepared before implementing tai chi exercises to prepare simple teaching methods to be used; such as lectures, discussions, demonstrations and re-demonstrations and used media as pictures, booklet, posters, power-point presentations, and audio-visual aids.

III- Implementation phase:

The tai chi exercises program was conducted for 1 year from August 2022 to the end of July 2023. The tai chi exercises were done on the study sample only (70) geriatric patients, while the control group (70) geriatric patients received only routine urological care at the clinic.

Before beginning the first session, an orientation to the tai chi exercises and their purpose was done for geriatric participants.

Pretest was used before implementing tai chi exercises to assess geriatric BPH-related symptoms and QOL, each session started with a revision of what was given during the previous session and the objectives of the next session.

Tai Chi Exercises sessions: there were 4 sessions

The 1st session [orientation session and first time for implementing tai chi exercises]: began with orientation of the geriatric patients about tai chi exercise and pretest was done. It was include definition, components and benefits of tai chi exercises for geriatric patients with BPH. Also it was include implementation of tai chi exercises; warm up, windmill exercise, closing posture, shooting the bow, self-meditation, arm and hand exercise. Geriatric patients were taught tai chi exercises and instructed to do these exercises at home twice daily for one week.

The researcher asked the geriatric patients to do the following steps:

1. Ask the geriatric to assume the comfortable position according to tai chi exercise type.
2. Ask the geriatric to take deep breath.
3. Ask the geriatric patient to do warm up exercises firstly.
4. Ensure good physical health state before tai chi exercises by measuring blood pressure and heart rate.
5. Ask the geriatric patient to repeat each exercise twice.
6. Ask the geriatric patient to inform any discomfort during tai chi exercises and discontinue.

The 2nd session: began with repetition of tai chi exercise to ensure that the geriatric patients learned it well and then they were instructed to do these exercises at home twice daily for three weeks.

The 3rd session: after completion of one month since the beginning of exercises to re-demonstrated the tai chi exercises and post-test was done using (Tool II &Tool III) after implementation session.

The 4th session: one month later a follow up test using (Tool II &Tool III) was done.

IV- Evaluation phase

This phase was carried out for the study group after implementation of the tai chi exercises and for the control group without implementation of tai chi exercise after one month for post-test and one month later for follow up to evaluate the geriatric patients BPH related symptoms and QOL by using Tool (II&III).

2.3. Administrative Design

Official permission for data collection and implementation of the study was obtained by submission of official letters issued from the Dean of the Faculty of Nursing at Assiut University to the Director of

Urological Hospital at Assiut university hospital to carry out the study. The letter includes a permission to carry out the study and explained the purpose and nature of the study.

Ethical considerations:

The research proposal was approved by the ethical committee in the faculty of nursing. There was no risk for the study subjects during the conducting of the research. The study was following ethical principles adopted in clinical research. Confidentiality and anonymity were assured. The researcher offers the elderly to participate in the research and takes their verbal consent. Participants had the right to refuse to participate and or withdraw from the study without any rationale any time.

2.4. Statistical Design

Data entry and statistical analysis were done using SPSS version 22 statistical software package. Data were presented using descriptive statistics in the form of (Percentage, mean and \pm standard deviation) for quantitative variables were done using computer program. The cronbach alpha coefficient was calculated to assess the reliability of the developed tools through their internal consistency. Chi-square test used for analysis of variance P-Value <0.05 .

3. RESULTS AND DISCUSSION

3.1. Table 7: This table demonstrated that there was statistical significant difference between pre, post, and follow up test for the study group regarding level of all QOL domains $P=0.0001$, while there was no statistical significant difference between pre, post, and follow up test for the control group regarding any QOL domains $P=0.262$.

3.2. Discussion

BPH is a common health problem among geriatric men which negatively effect on their QOL and functional status (Jain et al., 2020).

Impact of tai chi exercises in addition to routine urologic care for 2month was remarkable. The present study showed improvement in BPH related IPSS score, also it showed improvement in BPH-QOL and removing the misconceptions about the disease process and its management among the geriatric patients.

Regarding socio-demographic characteristics of the studied sample, it was found that the majority of the study and control group aged 60-69 years, and 28.6% of the control group aged 70 years and older, also there was no statistical significant difference between study & control group regarding age ($P=0.236$), this may be due to as the people aged they become more risk for diseases due to aging changes, this agree with Chen et al., 2021, who founded that 79.8% of the studied sample were in the age 60-69 years with mean age 66 ± 4.6 .

The present results revealed that 42.9% of the study group lives in the rural areas while 50.0% of control group lives in the rural areas, this disagrees with Motrich et al., 2020 & Peng et al., 2020 who reported that most 75% of the studied elderly lived rural areas.

Regarding to level of education, it was observed that less than one fifth of the study group and 17.1% of the control group were illiterate. This similar to Lebovici et al., 2022 who founded that BPH common in uneducated elderly people 18.7% who did not complete basic school education compared to those with higher educational attainment. Also, the present study in the same line with Hua et al., 2021 who found that BPH was more prevalent among low educational elderly participants or could only read and write.

The present study showed that severe IPSS for the study group decrease from 20.0% in pre, to 5.7% & 5.7 % in posttest and follow up test respectively, this is similar to results reported by Liu et al., 2020 who found that the international prostate symptoms of the study group improve after implementation of tai chi

exercises as severe IPSS 22.0% before the intervention but it decrease significantly to 10.4% post-intervention,

Also the present study revealed that there was no statistically significant difference between the QOL for the control group in pre, post and follow up test $P=0.234$, this indicate in our opinion that medications of BPH only don't improve the QOL of the geriatric patients, this disagree with Bonn et al., 2015 who found that there was statistically significant difference between the QOL for the control group in pre, post and follow up test $P=0.001$.

In contrast, for the study group high QOL level score increased from 30.0% in pretest to 85.7% in both posttest & follow up $P=0.000$, this may indicate that the tai chi exercises improve the physical ability of the geriatric patients hence the improvement of the QOL, this agrees with Anton et al., 2020 who reported an improved QOL on post-test scores over pre-test scores.

Also the present study showed that there was statistical significant difference between QOL level according to IPSS score of the study group $P=0.000$, as 86.7% of high quality of life had mild IPSS in contrast to 40% of low quality of life had severe IPSS. This agree with Chen et al., 2021 who reported that there was statistical significant effect between tai chi intervention, IPSS and QOL of the study group and $P=0.000$.

As regarding the QOL for the study and control groups the present results revealed that QOL domains mean scores increases in the study group than in the control group, also there was statistically significant difference between all BPH-QOL domains [disease, physical, social, psychological and satisfaction] of the study & control groups at posttest $P= 0.0001$, in our opinion this indicate that tai chi exercise strength the pelvic floor muscle and enhance physical status of the elderly and improve their QOL subsequently, this agrees with Adriani et al., 2018 who reported that there was statistically significant difference between BPH-QOL of the study & control groups $P= 0.001$.

Also, the present study all in the same line with **Adriani et al., 2018** who reported statistical significant difference between level of QOL over pre, post and follow-up results for the study group $P=0.001$.

Table 1: Distribution of socio-demographic characteristics of patients for both study and control groups at urology hospital 2023.

Socio-demographic variables	Study (n=70)		Control (n=70)		P. value
	No	%	No	%	
Age group					
• 60- 69 years	56	80.0	50	71.4	0.236
• ≥70 years	14	20.0	20	28.6	
Mean±SD	68.70±5.10		66.15±6.52		
Residence					
• Urban	40	57.1	35	50.0	0.396
• Rural	30	42.9	35	50.0	
Marital status					
• Married	54	77.1	60	85.7	0.192
• Un married	16	22.9	10	14.3	
Education					
• Illiterate	10	14.3	12	17.1	0.934
• Reade and write	14	20.0	12	17.1	
• Basic education	32	45.7	34	48.7	
• University education	14	20.0	12	17.1	
Occupation after retirement					
• Farmer	14	20.0	18	25.7	0.549
• Worker	24	34.3	16	22.9	
• Technician	12	17.1	20	28.6	
• Retired	14	20.0	14	20.0	
• Other	6	8.6	2	2.8	

Person living with					
• Wife	32	45.7	28	40.0	0.484
• Son/daughter	14	20.0	10	14.3	
• Alone	14	20.0	16	22.9	
• Other	10	14.3	16	22.9	

Table 2: Distribution of control group IPSS score in pre, post, and follow up test, 2023.

IPSS level	Control group (n=70)						P-value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
Mild	16	22.9%	42	60.0%	41	58.5%	0.000*
Moderate	40	57.1%	21	30.0%	18	25.7%	
Severe	14	20.0%	7	10.0%	11	15.8%	

Table 3: Distribution of study group IPSS score in pre, post, and follow up test, 2023.

IPSS level	Study group (n=70)						P-value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
Mild	18	25.7%	56	80.0%	56	80.0%	0.000*
Moderate	38	54.3%	10	14.3%	10	14.3%	
Severe	14	20.0%	4	5.7%	4	5.7%	

Table 4: Distribution of patient’s QOL level accords to control group in pre, post, and follow up test, 2023.

QOL level	Control group (n=70)						P-value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
High QOL	18	25.7%	20	28.6%	20	28.6%	0.234
Low QOL	52	74.3%	50	71.4%	50	71.4%	

Table 5: Distribution of patient’s QOL level accords to study group in pre, post, and follow up test, 2023.

QOL level	Study group (n=70)						P-value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
High QOL	21	30%	60	85.7%	60	85.7%	0.000*
Low QOL	49	70%	10	14.3%	10	14.3%	

Table 6: Relation between IPSS of study group and QOL at posttest.

IPSS	QOL				P. value
	High QOL (n=60)		Low QOL (n=10)		
	No	%	No	%	
• Mild	52	86.7	4	40.0	0.000 *
• Moderate	8	13.3	2	20.0	
• Severe	0	0.0	4	40.0	

Table 7: Distribution of the study and control groups patients with BPH according to their quality of life (QOL) domains mean score in urology hospitals, in pre, post and follow up, 2023.

QOL Domains	Study group (n=70)			Control group (n=70)			P-value 1
	Pretest	Posttest	Follow up test	Pretest	Posttest	Follow up test	
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	
Disease	25.11 ± 10.72	49.10 ± 15.93	49.10 ± 15.93	31.10 ± 8.45	32.10 ± 8.45	32.10 ± 8.45	0.000
Physical	23.18 ± 12.53	33.56 ± 15.08	33.56 ± 15.08	19.12 ± 10.12	20.12 ± 10.12	20.12 ± 10.12	
Social	20.12 ± 10.12	45.41 ± 10.72	45.41 ± 10.72	25.11 ± 10.72	25.11 ± 10.72	25.11 ± 10.72	
Psychological	28.11 ± 12.20	36.23 ± 8.02	36.23 ± 8.02	28.11±12.20	28.11 ± 12.20	28.11± 12.20	
Satisfaction	32.10 ± 8.45	46.34 ± 17.67	46.34 ± 17.67	23.18±12.53	23.18 ± 12.53	23.18± 12.53	

P-value 2	0.0001	0.262
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P-value 1: Relation between pretest and posttest after tai chi implementation for study group.

P-value 2: Relation between pretest, posttest and follow up test for study & control groups.

CONCLUSION

The results of the present study revealed that the implementation of tai chi exercises had a positive effect on decreasing prostate related symptoms and consequently improved physical, social, and psychological domains of quality of life among geriatric patients. There were several supportive factors that may have improve our study results as the most of the geriatric patients aged were below 70 years old, some of them highly educated and live in urban areas near the hospital.

RECOMMENDATIONS

- In-service preparing program for the urology clinic medical attendants around the tai chi work out strategies is required to extend their mindfulness of its benefits for geriatric patients with BPH, giving a brochure or booklet to the medical attendants, the elderly, and their caregivers in outpatient's urology clinics approximately tai chi works out.
- Intermittent wellbeing instructive programs for geriatric patients around tai chi works out to making strides BPH related side effects and QOL in other geological zones.

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