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## The effectiveness of individualised homoeopathic medicines in geriatric osteoarthritis of knee: A prospective study

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### Abstract

**Background:** Osteoarthritis of the knee is a chronic degenerative joint disorder commonly affecting the geriatric population, characterized by progressive cartilage deterioration, pain, stiffness, and functional limitation. Conventional management provides mainly symptomatic relief without halting disease progression. Homoeopathy, with its individualized and holistic approach, offers an alternative system aimed at restoring internal balance and improving quality of life. The current study aims to evaluate the effectiveness of individualized homoeopathic medicines in the management of osteoarthritis of the knee in the geriatric age group by assessing the improvement in pain, stiffness, and physical function using the WOMAC Osteoarthritis Index and the improvement in quality of life using the SF-36 Health Survey Questionnaire.

**Materials and Methods:** This prospective clinical interventional study was conducted on 30 geriatric patients aged 65 years and above, diagnosed with osteoarthritis of the knee. The cases were selected from the Outpatient Department of Government Homoeopathic Medical College. Patients were prescribed individualized homoeopathic medicines and were followed up every 3-4 weeks over a 6-month period. Assessment was done using pre- and post-treatment scores of WOMAC and SF-36 scales. Statistical analysis was performed using paired t-test.

**Results:** Significant improvement was observed in all three domains of the WOMAC scale with 73.3% of patients showing reduced pain, 66.7% improved stiffness, and 63.3% better physical functioning after treatment. Analysis of SF-36 data revealed marked enhancement in both Physical Component Summary (PCS) and Mental Component Summary (MCS) scores, indicating improved overall quality of life.

**Conclusion:** Individualized homoeopathic medicines proved effective in reducing pain and stiffness and improving joint mobility and overall quality of life among geriatric patients with osteoarthritis of the knee. The findings support the therapeutic potential of homoeopathy as a safe and holistic complementary approach in chronic degenerative joint diseases of the elderly. Further controlled clinical studies with larger samples are recommended to substantiate these outcomes.

**Keywords:** Individualised homoeopathy, osteoarthritis of knee, geriatric population, WOMAC score, SF-36, pain reduction, stiffness improvement, joint function, quality of life

### Introduction

Population ageing is a global phenomenon, and the number of people over 60 years of age has been rising rapidly across the world <sup>[1]</sup>. India, too, is witnessing an exponential growth in the number and proportion of elderly people, coupled with an increasing life expectancy (more than 70 years) <sup>[1]</sup>. The elderly in India currently comprises a little over 10% of the population, translating to about 104 million, and is projected to reach 19.5% of the total population by 2050<sup>[1]</sup>. This phenomenon of population ageing impacts all aspects of society and has numerous health, social, and economic implications.

Osteoarthritis (OA) is a prevalent condition that affects nearly 528 million people worldwide, including 23% of the global population aged > 40, and is characterised by progressive damage to articular cartilage, which often leads to substantial pain, stiffness, and reduced mobility for affected patients <sup>[2]</sup>. Pain related to OA is a barrier to maintain physical activity and a leading cause of disability, accounting for 2.4% of all years lived with disability globally <sup>[2]</sup>. The joint most commonly involved in OA is the knee, which is affected in about 60% - 85% of all OA cases. The aging population and longer life

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expectancy, translate into a growing cohort of symptomatic patients in need of alternatives to surgery.

### Materials and Methods

A prospective clinical interventional study was conducted among the geriatric population attending the outpatient department and inpatient departments of Government homeopathic medical College. Geriatric patients aged  $\geq 65$  years of both sexes diagnosed with osteoarthritis of the knee based on clinical features and radiological findings who were willing to participate and provide informed consent were included in the study. Patients with neurological disorders or cognitive impairment, history of previous knee surgery and severe systemic illness affecting quality of life were excluded from the study. The sample size required for a pre-post (paired) design was calculated to be 27. Allowing for a 10% attrition, the final sample size was calculated to be 30. Convenience sampling technique was used to select 30 eligible patients attending the OPD.

The baseline assessment was made and each patient followed up at interval of 3-4 weeks. The total study duration was 6 months. Following the baseline assessment, further assessment was conducted using WOMAC score and SF-36 questionnaires. The WOMAC scale (Western Ontario

and McMaster Universities Osteoarthritis Index) is a standardized questionnaire used to evaluate patients with osteoarthritis especially of the knee and hip. The WOMAC questionnaire consists of 24 items which measures the pain, stiffness, and physical function related to OA. The total WOMAC score is obtained by summing all item scores, with higher scores indicating greater pain, stiffness, and functional limitation. The health-related quality of life (HRQoL) was assessed using the Short Form-36 Health Survey (SF-36). The SF-36 is designed to assess an individual's perceived health status across multiple dimensions, both physical and mental and consists of 36 items that cover 8 domains of health with each domain scored on a 0-100 scale, where a zero score represents the worst possible health and a score 100 indicates the best possible health. Scores are calculated based on weighted averages of individual items within each domain. Higher scores indicate better health and well-being.

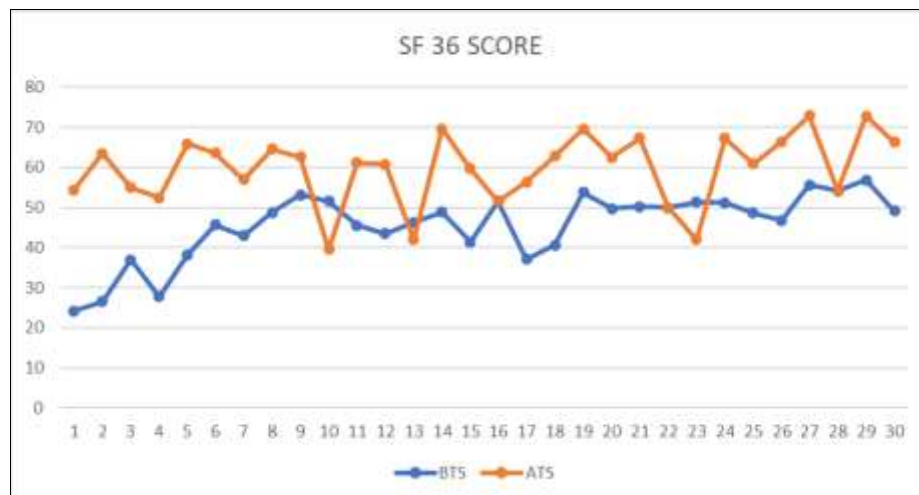
### Results

In this study among 30 elderly individuals, majority of participants, 60%, were in the age group between 65-70 years, 80% of the participants were females and 66.7% were overweight with BMI in the range 25-29.9.

### Womac score of the participants before and after treatment

Si No	Pain		Stiffness		Physical function		Total score	
	BTS	ATS	BTS	ATS	BTS	ATS	BTS	ATS
1	18	14	5	3	45	33	68	50
2	12	7	4	2	28	20	44	29
3	12	10	5	4	33	33	50	47
4	12	7	5	3	39	29	56	39
5	10	5	5	3	36	19	51	27
6	15	10	5	4	29	24	49	38
7	13	7	5	3	37	21	55	31
8	7	5	3	3	23	14	33	22
9	13	13	6	4	39	39	58	56
10	12	14	4	5	38	41	54	60
11	9	4	3	3	25	19	37	26
12	12	7	4	2	33	21	49	30
13	16	17	6	6	45	48	67	71
14	8	4	3	1	24	18	35	23
15	13	8	5	3	38	25	56	36
16	10	10	5	5	36	36	51	51
17	17	9	6	3	42	26	65	38
18	13	6	5	2	32	17	50	25
19	9	5	3	3	21	21	33	29
20	9	5	5	3	28	26	42	34
21	9	9	5	5	28	28	42	42
22	14	14	5	5	36	36	55	55
23	8	10	3	5	21	24	32	39
24	11	6	5	3	25	21	41	30
25	14	9	5	3	38	21	57	33
26	12	8	5	4	31	23	48	35
27	10	5	5	3	21	21	36	29
28	14	14	5	5	38	38	57	57
29	7	3	3	2	21	19	31	24
30	11	6	5	3	26	21	42	30

\*BTS - Before Treatment Score \*ATS - After Treatment Score



\*BTS - Before Treatment Score \*ATS - After Treatment Score

**Diagram 1:** Line graph of the SF 36 -Score scores before and after treatment

There was improvement in pain, stiffness for twenty-two patients in this study. Three patients experienced a worsening of pain and five patients experienced no change on analysis of the WOMAC Score. Analysis of quality of life showed improvement in twenty-four patients, three experienced no change and three experienced worsening.

The statistical analysis of WOMAC scores showed a t-value of 5.83 with 29 degrees of freedom and of the SF-36 score showed a t-value was found of 7.03 with 29 degrees of freedom at a significance level of  $p < 0.001$ , indicating a highly significant difference between pre-treatment and post-treatment scores. This confirms that individualized homeopathic medicines produced a statistically significant improvement in the quality of life among geriatric patients suffering from osteoarthritis of knee validating the therapeutic efficacy of the homeopathic interventions in managing geriatric osteoarthritis of knee.

## Discussion

The present study was undertaken to evaluate the effectiveness of individualized homeopathic medicines in the management of osteoarthritis (OA) of the knee among geriatric patients. A total of 30 participants above 65 years of age participated in the study for a period of six months, and the outcomes were assessed using the WOMAC Osteoarthritis Index and SF-36 Quality of Life Questionnaire. The study primarily aimed to assess symptomatic improvement in pain, stiffness, and physical functioning, as well as enhancement in overall quality of life.

The analysis revealed a remarkable improvement in pain, stiffness, and physical function in the majority of patients following individualized homeopathic treatment. Out of the 30 cases, 22 patients (73.3%) experienced a reduction in pain scores, 20 patients (66.7%) showed decreased stiffness, and 19 patients (63.3%) exhibited better physical functioning as per the WOMAC scale. These findings indicate that homeopathic medicines contributed to symptomatic relief and improved mobility in elderly patients suffering from chronic degenerative joint disease.

The results also showed significant enhancement in quality-of-life parameters as well. SF-36 analysis demonstrated improvements in both the Physical Component Summary (PCS) and Mental Component Summary (MCS) domains. Twenty-four patients reported increased vitality, twenty

participants had better social functioning, and twenty-four experienced improved perception of general health. This reflects not only symptomatic relief but also psychological and social well-being, a crucial aspect of holistic management in geriatrics. The chronic pain and limited mobility characteristic of OA often lead to social isolation, anxiety, and depression; hence, the positive changes in SF-36 scores highlight the broader impact of individualized homeopathic therapy on overall health perception and emotional stability.

The predominance of female participants (80%) aligns with global epidemiological trends, where OA is more prevalent among women, particularly postmenopausal, due to hormonal changes and decreased bone density. The majority of patients (66.7%) were overweight, confirming obesity as a contributing risk factor for OA progression due to increased mechanical load and systemic inflammation. Despite these challenges, a majority showed clinical improvement, suggesting that homeopathic medicines may aid in functional restoration and pain management irrespective of comorbid risk factors.

A study from Queen Margaret University, which explores individualized homeopathic prescribing in a clinical context. The outcomes reported in study especially improvements in pain, mobility, and quality-of-life are broadly in line with our observations, lending external credibility to our findings despite differences in populations, interventions, and outcome measurement. Nonetheless, caution is warranted in interpretation, and further large-scale, longer-term RCTs and pragmatic trials would be needed to more firmly establish efficacy in geriatric populations.

## Conclusion

Osteoarthritis of the knee is one of the most prevalent causes of chronic pain and disability among elderly individuals. It results from progressive wear and tear of articular cartilage and is influenced by aging, obesity, and genetic predisposition. The present study was conducted to evaluate the effectiveness of individualized homeopathic medicines in managing osteoarthritis of the knee among geriatric patients.

Thirty patients aged 65 years and above were selected from the Outpatient Department of Government Homeopathic Medical College. Each case was studied carefully and treated according to the principles of classical homeopathy.

The evaluation of treatment outcomes was performed using the WOMAC Osteoarthritis Index for symptomatic assessment and the SF-36 Questionnaire for measuring changes in quality of life over a six-month period.

The results indicate that individualized homeopathic treatment provides holistic and sustained improvement in symptoms as well as psychological well-being, without the adverse effects associated with long-term conventional therapy. This supports the role of homeopathy as an effective complementary system in managing chronic degenerative conditions of the elderly. However, further large-scale randomized controlled studies are necessary to validate these findings and explore long-term benefits.

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