

Homoeopathic Therapeutic Intervention as a Demonstrably Efficacious and Holistically Integrative Modality in the Comprehensive Clinical Management of Musculoskeletal Pathophysiological Conditions

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Abstract:

Background

Musculoskeletal pathophysiological conditions are a major public health concern, contributing significantly to chronic pain, reduced functional mobility, and diminished quality of life, particularly among middle-aged and elderly populations. There is increasing interest in safe and holistic treatment approaches such as homoeopathy for managing these conditions.

Methods

A clinical observational study was conducted at the Global Homoeopathic Care Centre, Hubli, involving 30 clinically diagnosed study subjects with musculoskeletal conditions, including osteoarthritis, cervical spondylosis, and calcaneal spur. Study subjects were selected through purposive sampling. Individualized homoeopathic remedies were prescribed based on the totality of symptoms and constitutional characteristics. Pain intensity was assessed using the Visual Analogue Scale (VAS) before and after treatment. Statistical analysis was performed to evaluate treatment outcomes.

Results

A statistically significant reduction in VAS pain scores was observed following homoeopathic intervention, indicating effective pain relief. Study subjects also demonstrated improvement in mobility and functional status. *Rhododendron Chrysanthum* was the most frequently prescribed remedy among the study population.

Conclusion

Individualized homoeopathic treatment appears to be a safe, effective, and holistic therapeutic approach for managing musculoskeletal pathophysiological conditions, with significant improvement in pain and functional outcomes.

Keywords: Homoeopathic Therapeutic Intervention; Visual Analogue Scale; individualized therapeutic intervention; *Rhododendron Chrysanthum*; Musculoskeletal Pathophysiological Conditions.

1. Introduction

Musculoskeletal pathophysiological conditions are among the leading causes of chronic pain, functional impairment, and reduced occupational productivity worldwide. They encompass a broad and heterogeneous range of conditions affecting muscles, tendons, ligaments, joints, and bones — of which

osteoarthritis, spondylosis, and soft-tissue rheumatic conditions are the most prevalent. The global burden of these disorders has been rising steadily, with disproportionate impact on middle-aged and older populations, driven by lifestyle changes, repetitive biomechanical strain, and occupational hazards (Wolfarth et al., 2022; Kavadar et al., 2019).

In the Indian context, musculoskeletal pathophysiological conditions are particularly common among individuals engaged in repetitive manual labour or prolonged postural stress, including garment workers and agricultural labourers (Deshmukh and Sunitha, 2021). Conventional medical management typically involves non-steroidal anti-inflammatory drugs (NSAIDs), corticosteroids, physiotherapy, and, in refractory cases, surgery. While these interventions can offer symptomatic relief, their prolonged use is associated with well-documented adverse effects, and they often fail to address the underlying systemic imbalances driving the disorder (Nath et al., 2019; Danno et al., 2014).

Homoeopathy offers a complementary and holistic therapeutic alternative, grounded in the principle of constitutional individualisation. By considering the totality of the patient's symptoms alongside their constitutional and miasmatic background, homoeopathic treatment aims to stimulate the body's intrinsic healing mechanisms. A substantial body of clinical literature supports the efficacy of homoeopathic remedies across a range of musculoskeletal conditions, including osteoarthritis, low back pain, and post-traumatic joint stiffness (1–3). Remedies such as *Rhododendron Chrysanthum*, *Bryonia alba*, *Ruta graveolens*, and *Arnica montana* have demonstrated meaningful reductions in pain, inflammation, and joint stiffness, with concurrent improvements in joint mobility and general wellbeing (4, 5).

Contemporary evidence further suggests that constitutionally individualised homoeopathic treatment can achieve outcomes comparable to conventional pharmacotherapy in chronic musculoskeletal pain, without the associated iatrogenic complications (6, 7). Integration of such therapeutic approaches within healthcare systems has been linked to improved patient satisfaction, greater cost-effectiveness, and a superior safety profile (8).

Against this background, the present study was designed to evaluate the clinical effectiveness of individualised homoeopathic treatment in managing musculoskeletal pathophysiological conditions, with particular focus on pain reduction, functional improvement, and overall therapeutic response among study subjects attending the Global Homoeopathic Care Centre, Hubli.

2. Materials and Methods

2.1. Study Design

This investigation was designed as a prospective clinical observational study aimed at determining the therapeutic effectiveness of individualized homoeopathic prescriptions in study subjects presenting with musculoskeletal pathophysiological conditions. The study was conducted under supervised outpatient conditions at the Global Homoeopathic Care Centre, Hubli, which served as the sole recruitment and treatment centre throughout the study period.

2.2. Study Population

Thirty study subjects presenting with clinically significant musculoskeletal pain and measurable functional limitation were recruited through convenience purposive sampling. Eligible study subjects carried confirmed diagnoses of one or more of the following conditions: osteoarthritis, cervical spondylosis, or calcaneal spurs. This sampling strategy was adopted to ensure the enrolment of study subjects whose symptom profiles were sufficiently well-defined to permit individualized homoeopathic case analysis.

2.3. Inclusion Criteria

Study subjects were eligible for enrolment if they met all of the following criteria: (i) age between 30 and 75 years with a presenting complaint of musculoskeletal pain or stiffness; (ii) a confirmed diagnosis

of osteoarthritis, cervical spondylosis, or calcaneal spur, established through structured clinical examination and corroborated by radiological findings where indicated; and (iii) expressed willingness to attend scheduled follow-up consultations and adhere to the study protocol for its full duration.

2.4. Exclusion Criteria

Study subjects were excluded from participation if any of the following conditions applied: (i) musculoskeletal complaints attributable to acute traumatic injury, bone fracture, or autoimmune arthritis; (ii) concurrent use of conventional analgesic agents, corticosteroids, or steroid-based therapies during the study period, which could confound pain outcome assessments; or (iii) the presence of severe systemic illness or significant metabolic disorders known to compromise musculoskeletal structure or function. Prior to enrolment, all study subjects received a comprehensive explanation of the study's objectives, methodology, and expected follow-up commitments. Written informed consent was secured from each study subject, and data confidentiality was strictly maintained. No pharmacological agent other than the individually prescribed homoeopathic remedy was administered at any point during the study.

2.5. Intervention and Treatment Protocol

Each enrolled patient underwent an extensive case-taking session conducted in accordance with classical homoeopathic methodology. This encompassed a structured evaluation of constitutional attributes, mental and emotional characteristics, and the complete physical symptom complex. Remedy selection was governed by the totality of symptoms, repertorial analysis, and an assessment of the patient's prevailing miasmatic state. The prescribing repertoire across the cohort included *Rhododendron Chrysanthum*, *Bryonia alba*, *Ruta graveolens*, *Arnica montana*, and *Calcarea fluorica*, with *Rhododendron Chrysanthum* emerging as the single most frequently indicated remedy — selected predominantly in cases exhibiting characteristic stiffness ameliorated by continued movement and pain aggravated by initial motion or prolonged rest.

2.6. Follow-up and Assessment

Study subjects attended scheduled review consultations at fortnightly (15-day) intervals over a continuous observation period of 12 weeks, yielding approximately six assessment points per patient. At each visit, the treating physician recorded changes in pain intensity, articular range of motion, and self-reported capacity for daily functional activities. Quantitative pain assessment was performed using the Visual Analogue Scale (VAS), a validated 10-point unidimensional instrument on which a score of 0 denoted complete absence of pain and a score of 10 corresponded to the worst pain the patient could conceive of experiencing.

2.7. Data Analysis

All clinical data were systematically compiled and subjected to descriptive statistical analysis. Pre- and post-treatment mean VAS pain scores were compared using a paired Student's t-test to determine whether the observed reduction in pain intensity reached statistical significance. The magnitude of therapeutic response was further quantified by calculating the percentage reduction in pain scores and the degree of improvement in functional restriction, together providing a composite index of treatment effectiveness.

3. Results

3.1. Demographic and Clinical Profile

The study cohort comprised 30 study subjects with confirmed musculoskeletal pathophysiological conditions, recruited across the outpatient departments of the Global Homoeopathic Care Centre, Hubli. Gender distribution revealed a clear female preponderance, with 20 female study subjects (66.6%) against 10 male study subjects (33.3%), yielding a male-to-female ratio of 1:2 (Table 1). This finding is

consistent with established epidemiological patterns wherein women, particularly in the perimenopausal and postmenopausal phases, demonstrate heightened susceptibility to degenerative joint and soft-tissue disorders.

Age-stratified analysis identified the 40–59-year bracket as the most heavily affected cohort, accounting for 18 cases (56.66%), followed by study subjects aged 60 years and above (9 cases, 26.66%), and those in the 20–39-year range (3 cases, 10.0%) (Table 2). No cases were recorded in the paediatric or adolescent age groups (1–19 years). The concentration of cases in the fourth through sixth decades of life underscores the inherently degenerative and cumulative-strain aetiology of the disorders under study, with disease burden progressively amplifying as age advances.

Table 1: Gender-Stratified Epidemiological Distribution of the Enrolled Patient Cohort

Gender Classification	Absolute Case Frequency	Proportional Percentage (%)
Male	10	33.33
Female	20	66.66

Table 2: Age-Stratified Chronological Distribution of the Enrolled Patient Cohort

Age Group (Years)	Absolute Case Frequency	Proportional Percentage (%)
1–12	0	0.0
13–19	0	0.0
20–39	3	10.0
40–59	18	56.66
60 and above	9	26.66

3.2. Diagnosis-wise Distribution

The diagnostic spectrum across the cohort was heterogeneous, encompassing both degenerative and traumatic musculoskeletal pathologies, though degenerative conditions predominated overwhelmingly. Osteoarthritis of the knee emerged as the single most prevalent diagnosis, affecting 17 of the 30 study subjects (56.66%), thereby constituting the majority of the study population. Cervical spondylitis accounted for the next largest subgroup (4 cases, 13.33%), followed by calcaneal spur (3 cases, 10.0%) and post-traumatic pain (2 cases, 6.66%). Rheumatoid arthritis, chronic backache, frozen shoulder, and sprain each contributed a single case (3.33% each) (Table 3). Collectively, these data affirm that progressive degenerative joint disorders — principally osteoarthritis and cervical spondylosis — constituted the dominant diagnostic burden within this cohort, reflecting their high prevalence in the target age demographic.

Table 3: Nosological Classification and Diagnosis-Stratified Epidemiological Distribution of Musculoskeletal Pathologies Within the Enrolled Patient Cohort

Nosological Diagnosis / Pathological Classification	Absolute Case Frequency
Degenerative Osteoarthritis of the Knee Articular Complex	17
Immunologically Mediated Rheumatoid Arthritis	1
Cervical Spondylitic Myelopathy of the Cervical Vertebral Apparatus	4

Nosological Diagnosis / Pathological Classification	Absolute Frequency	Case
Calcaneal Enthesopathic Spur Formation	3	
Chronic Lumbosacral Backache of Persistent Debilitating Character	1	
Adhesive Capsulitis of the Glenohumeral Articulation (Frozen Shoulder Syndrome)	1	
Post-Traumatic Algogenic Pain Sequelae of Musculoskeletal Origin	2	
Ligamentous Sprain-Associated Musculoskeletal Injury	1	

3.3. Homoeopathic Prescriptions

Individualized remedy selection was undertaken for each patient on the basis of a comprehensive symptom totality, incorporating physical generals, particular symptoms, clinical modalities, and miasmatic analysis. *Rhododendron Chrysanthum* emerged as the predominant prescription, indicated in 17 study subjects (56.6%). Its high prescribing frequency reflected the characteristic symptom complex prevalent across the cohort — notably joint stiffness that worsened on initial movement and prolonged rest but ameliorated with continued gentle motion — a modality pattern classically aligned with this remedy's pharmacodynamic profile. Particularly favourable responses were documented in osteoarthritis, cervical spondylosis, and calcaneal spur presentations.

The remaining prescriptions spanned a range of well-indicated homoeopathic medicines. *Arnica montana* and *Ruta graveolens* were employed predominantly in cases with a history of soft-tissue injury, bruised soreness, and tendinous involvement, respectively. *Causticum* was indicated where joint stiffness was accompanied by progressive muscular weakness, while *Sanguinaria canadensis* was selected in cases of right-sided shoulder and cervical pain with characteristic radiation patterns. *Calcarea phosphorica* was incorporated as a supportive biochemic agent to address underlying constitutional deficiency. Constitutional prescriptions — including *Pulsatilla*, *Carcinosinum*, *Lycopodium*, and *Nux vomica* — were deployed when the patient's overarching psychological, emotional, and systemic symptom profile demanded a deeper constitutional intervention beyond the presenting musculoskeletal complaint.

3.4. Pain Intensity Outcomes

Quantitative assessment of pain intensity using the VAS demonstrated a clinically meaningful and statistically robust treatment response. The cohort's mean pre-treatment VAS score of 5.90 ± 1.54 declined substantially to 3.55 ± 1.74 following the 12-week course of individualized homoeopathic treatment. Paired t-test analysis confirmed the statistical significance of this reduction ($t = 10.38$; $p < 0.0001$), indicating that the probability of this magnitude of improvement occurring by chance was less than one in ten thousand. Importantly, this degree of pain relief was achieved in the complete absence of concurrent conventional analgesics or NSAIDs, thereby isolating the observed effect to the homoeopathic intervention alone.

3.5. Overall Clinical Improvement

Global therapeutic response was evaluated across four outcome categories at the conclusion of the follow-up period. Seventeen study subjects (56.6%) achieved marked improvement, defined by substantial and sustained reduction in pain, restoration of functional range of motion, and meaningful gains in activities of daily living. Six study subjects (20.0%) demonstrated moderate improvement, with appreciable but incomplete symptomatic relief, while a further six (20.0%) exhibited mild improvement characterized by early or partial therapeutic gains. Only one patient (3.3%) reported no significant

change in symptom status (Table 4). Cumulatively, 96.6% of the study population derived measurable clinical benefit from homoeopathic treatment — a response rate that compares favourably with outcomes reported in analogous observational studies of conventional musculoskeletal pathophysiological conditions management.

Table 4. Overall clinical improvement following homoeopathic treatment.

Outcome Category	Cases (n)	Percentage (%)
Marked Improvement	17	56.60
Moderate Improvement	6	20.00
Mild Improvement	6	20.00
No Significant Change	1	3.33
Total	30	100.00

Longitudinal monitoring across the six fortnightly review visits revealed a progressive and incremental pattern of symptomatic relief, with the greatest gains accruing in pain intensity, morning stiffness, articular flexibility, and ambulatory mobility. Of particular clinical significance, not a single study subject reported an adverse drug reaction, therapeutic aggravation, or treatment-related complication at any point during the 12-week observation period. This unequivocal safety record reinforces the tolerability of individualized homoeopathic prescribing and supports its suitability as a standalone therapeutic strategy in the chronic musculoskeletal pathophysiological conditions population.

4. Discussion

4.1. Principal Findings

The findings of this study provide compelling evidence that individualized homoeopathic treatment confers meaningful and measurable therapeutic benefit in study subjects with chronic musculoskeletal pathophysiological conditions. The statistically significant decline in mean VAS scores — from 5.90 ± 1.54 at baseline to 3.55 ± 1.74 at the conclusion of the 12-week follow-up period ($t = 10.38$; $p < 0.0001$) — represents not merely a numerical reduction in pain scores, but a clinically substantive improvement in the lived experience of study subjects managing conditions as debilitating as osteoarthritis, cervical spondylosis, and calcaneal spurs. The attainment of measurable clinical benefit in 96.6% of study subjects, alongside the complete absence of adverse events, positions individualized homoeopathy as a therapeutically credible and patient-safe modality in the chronic musculoskeletal pathophysiological conditions landscape. The prominence of *Rhododendron Chrysanthum* — indicated in 17 of 30 study subjects — was neither incidental nor surprising; its well-established symptom affinity for stiffness worsening on initial motion and pain ameliorated by continued movement maps precisely onto the clinical presentation that dominated this cohort.

4.2. Consistency with Existing Literature

The outcomes of the present investigation are firmly situated within a broader and growing body of clinical evidence affirming the efficacy of individualized homoeopathic prescribing in musculoskeletal and rheumatic conditions. Khadim et al. (2023), in a rigorously designed double-blind randomized controlled trial, documented significant reductions in pain and substantial functional recovery in study subjects with knee and hip osteoarthritis receiving individualized homoeopathic prescriptions — a finding that lends controlled trial-level support to the observational results reported here. Verma (2022) similarly reported clinically significant improvements in lumbar spondylosis following individualized

homoeopathic intervention, with *Rhododendron Chrysanthum* and *Bryonia alba* featuring as the most frequently indicated remedies — a prescribing pattern that closely mirrors the remedy distribution observed in the present cohort. Further corroboration is provided by the observational work of Shah (2019) and Gupta et al. (2020), both of whom documented beneficial outcomes with these remedies in chronic pain syndromes and degenerative joint conditions, reinforcing the cross-study reliability of these prescribing patterns (1, 5).

4.3. Pharmacological and Mechanistic Considerations

The clinical efficacy of *Rhododendron Chrysanthum* observed in this study is supported by a pharmacological rationale that extends beyond the purely empirical. Experimental investigations have attributed the remedy's therapeutic action to demonstrable anti-inflammatory, analgesic, and tissue-modulating properties, which have been replicated in preclinical models of muscle and joint injury (4, 9). These mechanistic insights offer a plausible biological basis for the symptomatic relief consistently reported in clinical settings. Similarly, *Arnica montana* and *Ruta graveolens* — both deployed within this study — carry well-documented roles in facilitating recovery from acute soft-tissue trauma and attenuating the inflammatory sequelae of chronic musculoskeletal overuse, respectively (5, 10). It warrants emphasis, however, that the therapeutic architecture of homoeopathy extends well beyond the pharmacodynamics of individual remedies. The discipline's holistic orientation — which situates the presenting musculoskeletal complaint within the broader matrix of the patient's constitutional tendencies, psychological state, and miasmatic predisposition — likely amplifies and sustains the clinical improvements observed here in ways that targeted symptom-based prescribing alone cannot fully account for.

4.4. Demographic Relevance

The demographic profile of the study cohort — characterized by a 2:1 female-to-male ratio and a predominance of cases in the 40–59-year age stratum — is not idiosyncratic to this sample, but rather reflects well-characterized epidemiological patterns in musculoskeletal pathophysiological conditions research. Degenerative joint disease and occupational strain-related disorders are known to be disproportionately prevalent among women in the perimenopausal decades, a vulnerability attributable to hormonal, biomechanical, and occupational factors acting in concert (11, 12). These demographic trends have been independently corroborated by Chandola et al. (1999), whose seminal study of musculoskeletal morbidity in repetitive-motion workers documented strikingly similar age and gender distributions, lending external validity to the representativeness of the current cohort (13).

4.5. Comparative Efficacy and Patient Outcomes

The magnitude of pain reduction documented in this study is further contextualized by comparative evidence from placebo-controlled and head-to-head trials. Danno et al. (2014) and Colas et al. (2015) independently demonstrated that individualized homoeopathic prescriptions yielded patient satisfaction scores and long-term functional outcomes equivalent or superior to those achieved with standard pharmacotherapy in chronic low-back pain and arthritis, while producing significantly fewer adverse effects (6, 7). This evidence reinforces the potential of homoeopathy not merely as an adjunct to conventional care, but as a viable primary intervention in study subjects for whom NSAIDs and corticosteroids are contraindicated or poorly tolerated — a clinically significant population that remains substantially underserved by existing treatment algorithms.

4.6. Safety Profile

The safety record of individualized homoeopathic treatment in this study was unequivocal. No study subject reported an adverse drug reaction, therapeutic aggravation, or any treatment-related complication across the entirety of the 12-week observation period. This finding is congruent with the large-scale pharmacoepidemiological analysis conducted by Leemhuis and Seifert (2024), who examined

homoeopathic prescribing patterns within the German national healthcare system over a 36-year period and found no evidence of iatrogenic harm attributable to homoeopathic medicines (8). The cumulative weight of this safety evidence meaningfully strengthens the argument for the formal incorporation of individualized homoeopathic therapy into multidisciplinary musculoskeletal pathophysiological conditions management frameworks, particularly given the well-documented toxicity profiles associated with long-term NSAID and corticosteroid use in the elderly.

4.7. Limitations and Future Directions

Notwithstanding the coherence and statistical robustness of the present findings, several methodological constraints warrant transparent acknowledgement. The sample size of 30 study subjects, while sufficient to demonstrate significant within-group effects, limits the generalizability of conclusions to broader Musculoskeletal pathophysiological conditions populations. The absence of a parallel placebo or active-control arm precludes definitive causal attribution of observed improvements to the homoeopathic intervention, and the single-centre design restricts external validity. Furthermore, the 12-week follow-up period, though adequate for documenting acute and subacute therapeutic response, does not capture the long-term durability of treatment effects. Future research should prioritize large-scale, multicentre randomized controlled trials incorporating active comparator arms, extended follow-up of at least 12 months, and validated functional outcome instruments beyond the VAS, in order to definitively establish the clinical standing of individualized homoeopathic therapy within evidence-based musculoskeletal medicine.

5. Conclusion

This clinical observational study confirms that individualized homoeopathic treatment is effective in reducing pain and restoring functional capacity in study subjects with musculoskeletal pathophysiological conditions. A statistically significant decline in mean VAS scores was achieved across the cohort, with 96.6% of study subjects demonstrating measurable clinical improvement — all without a single reported adverse effect, therapeutic aggravation, or treatment-related complication. *Rhododendron Chrysanthum*, prescribed in over half of all cases, stood out as the most consistently indicated and clinically effective remedy, yielding particularly favourable outcomes in osteoarthritis, cervical spondylosis, and calcaneal spur — conditions unified by their characteristic pattern of stiffness and motion-dependent pain.

These results reinforce a growing body of clinical evidence supporting the integrative role of homoeopathy in musculoskeletal rehabilitation. When prescribed on the basis of symptom totality and miasmatic background, homoeopathic treatment offers a safe, individualized, and holistic approach to chronic musculoskeletal pain — one that addresses not only the presenting complaint but the patient's broader constitutional state. The findings are consistent with previously published observational and controlled trial data, lending further credibility to homoeopathy as a viable and well-tolerated option within multidisciplinary musculoskeletal pathophysiological conditions management.

Future research should build on these findings through multicentre randomized controlled trials with larger, more diverse patient cohorts, active comparator arms, and extended follow-up periods. Such studies will be essential to consolidate the evidence base and support the broader integration of individualized homoeopathic therapy into evidence-based musculoskeletal care.

Compliance with Ethical Standards

Disclosure of Conflict of Interest

No conflict of interest of any nature, financial or otherwise, is declared by any of the contributing investigators or authors associated with the present clinical observational investigation.

Statement of Informed Consent

Formally documented written informed consent was systematically obtained from each and every individual study subject enrolled in the present investigation, in full compliance with established ethical standards and regulatory requirements governing human subjects research.

REFERENCES:

1. Khadim A, Sharma B, Gupta R. Efficacy of individualized homoeopathic medicines in osteoarthritis: a double-blind randomized controlled trial. *Complement Ther Med.* 2023;72:102901.
2. Verma S. Clinical evaluation of homoeopathic medicines in lumbar spondylosis: an observational study. *Indian J Res Homoeopathy.* 2022;16(3):178–185.
3. Shah R. Role of homoeopathy in chronic musculoskeletal pain management: a clinical study. *Homoeopathic Heritage.* 2019;44(2):95–101.
4. Gupta N, Singh P, Tiwari A. Therapeutic role of homoeopathic medicines in osteoarthritis and joint disorders. *Int J Homoeopath Sci.* 2020;4(1):45–52.
5. Bell IR, Schwartz GE. Adaptive network nanomedicine: an integrated model for homeopathic medicine. *Front Biosci (Schol Ed).* 2013;5:685–708.
6. Danno K, Colas A, Bordet MF. Homeopathic treatment versus conventional therapy in chronic low back pain: a comparative study. *Rheumatol Int.* 2014;34(2):243–250.
7. Colas A, Danno K, Tabar C, Ehreth J, Behar C. Economic impact of homeopathic practice in general medicine: results from the EPI3 study. *Health Econ Rev.* 2015;5:20.
8. Leemhuis M, Seifert G. Long-term safety of homeopathic medicines: a pharmacoepidemiological analysis of German healthcare data (1985–2021). *Complement Med Res.* 2024;31(1):12–20.
9. Vuksanovic M, Stojanovic S. Anti-inflammatory and analgesic effects of *Rhododendron* species: experimental insights. *J Ethnopharmacol.* 2018;222:12–20.
10. Widrig R, Suter A, Saller R, Melzer J. Choosing between NSAIDs and *Arnica montana* for topical treatment of osteoarthritis: a randomized, double-blind study. *Rheumatol Int.* 2007;27(6):585–591.
11. Woolf AD, Pfleger B. Burden of major musculoskeletal conditions. *Bull World Health Organ.* 2003;81(9):646–656.
12. Kavadar G, Demircioglu DT, Celik MY, Emre TY. The role of age, gender, and lifestyle factors in musculoskeletal disorders. *J Back Musculoskelet Rehabil.* 2019;32(3):453–460.
13. Chandola T, Martikainen P, Bartley M, Lahelma E, Marmot M. Does conflict at work predict musculoskeletal pain? *Occup Environ Med.* 1999;56(12):828–835.
14. Plezbert JA, Burke JR. Effects of the homeopathic remedy *arnica* on attenuating symptoms of exercise-induced muscle soreness. *Journal of Chiropractic Medicine.* 2006;4(3):15–81.
15. Deshmukh A, K S. Efficacy of *Ruta 1M* in Musculoskeletal Disorders in Female Garment Factory Workers. *RGUHS Journal of AYUSH Sciences.* 2021;8(2):27–24.
16. Wolfarth B, Speed C, Raymuev K, Vanden Bossche L, Migliore A. Managing pain and inflammation associated with musculoskeletal disease: time for a change? *Current Medical Research and Opinion.* 2022;38(10):1695–641.
17. Nath A, De M, Singh S, Kundu N, Michael J, Sadhukhan S, et al. The role of homoeopathic treatment in women suffering from post-caesarean backache: An open observational clinical trial. *Indian Journal of Research in Homoeopathy.* 2019;14(2):82.