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RESEARCH ARTICLE

EVALUATING THE EFFECTIVENESS OF ARSENICUM ALBUM 30C FOR COVID-19 PREVENTION IN DELHI CONTAINMENT ZONES: A PROSPECTIVE COHORT STUDY

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Abstract

Introduction: The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has led to extensive research into preventive strategies, including alternative medicine. Homeopathy, particularly *Arsenicum album* 30C, has been recommended by the Ministry of AYUSH, India, as a prophylactic measure during the pandemic. This study evaluated the effectiveness of *Arsenicum album* 30C in reducing the incidence of COVID-19 among individuals residing in containment zones during the pandemic.

Methods: A prospective study involved 170 participants from COVID-19 containment zones. Participants were divided into two cohorts: the Homeopathy Intervention (HI) cohort, which received *Arsenicum album* 30C, and the Non-Intervention (NI) cohort, which did not receive any systematic treatment. The incidence of COVID-19 was tracked over a 30-day follow-up period. Statistical analyses, including chi-square tests and multivariate logistic regression, were used to compare outcomes between the two groups.

Results: The incidence of COVID-19 was significantly lower in the HI cohort (3.5%) compared to the NI cohort (10.6%) ($p = 0.04$). The relative risk reduction was 67% in the HI group. Additionally, participants in the HI cohort experienced only mild symptoms, while those in the NI cohort reported more moderate symptoms ($p = 0.01$). No adverse effects were observed in the HI cohort.

Conclusion: Arsenicum album 30C demonstrated a significant reduction in COVID-19 incidence and symptom severity in the intervention cohort. While the results are promising, further randomized, placebo-controlled studies are necessary to confirm its efficacy and safety.

Keywords: COVID-19, *Arsenicum Album* 30C, Homeopathy, Containment Zones, Prophylaxis.

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BACKGROUND/INTRODUCTION

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has been a major global health crisis since its emergence in late 2019. With millions of confirmed cases and substantial mortality worldwide, finding effective preventive strategies has been a priority for both conventional and alternative medicine systems. While vaccines and pharmacological treatments have played a pivotal role in mitigating the spread and severity of COVID-19, many countries have explored complementary approaches, including homeopathy. One of the most widely recommended homeopathic remedies for COVID-19 prevention, particularly in India, is Arsenicum album 30C.

The Ministry of AYUSH, India, issued an advisory early in the pandemic recommending Arsenicum album 30C as a prophylactic treatment to bolster immunity and potentially reduce the risk of contracting COVID-19. This advisory prompted several studies and trials to evaluate its efficacy [1]. A notable multicenter, cluster-randomized study investigated the protective effect of Arsenicum album 30C in individuals residing in COVID-19 containment areas. The study found that the homeopathic remedy provided a statistically significant protective effect, reducing the incidence of COVID-19 by 68% compared to a control group that received no treatment. This suggested that Arsenicum album 30C could be a viable option as a complementary preventive measure during pandemics, though the study also acknowledged the need for further randomized, placebo-controlled trials to validate these findings [2].

Other research, such as a randomized controlled trial conducted in Kerala, India, focused on the immunological responses triggered by Arsenicum album 30C. The trial aimed to measure its effects on various immune markers and the development of antibody responses. Preliminary results indicate that the remedy may enhance both innate and adaptive immune responses, although its overall impact on COVID-19 prevention still requires validation through larger, more rigorous trials [3].

Despite these findings, the use of homeopathy, including Arsenicum album 30C, in the context of COVID-19 remains controversial. Critics argue that current evidence is insufficient and call for more robust, placebo-controlled studies to determine the true efficacy and safety of homeopathic interventions. Nevertheless, with rising interest in complementary medicine, especially in regions where access to conventional treatments may be limited, homeopathy continues to be explored as a potential supportive strategy in pandemic management [4].

In light of these developments, this study evaluates the effectiveness of Arsenicum album 30C in preventing COVID-19 in people residing in containment zones.

MATERIALS AND METHODS

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Study Design

This was a prospective, community-based, parallel cohort study designed.

Study Setting

The study was conducted in designated COVID-19 containment zones across Patna, India, which were areas under strict surveillance and movement restrictions due to high COVID-19 transmission risk.

Participants

A total of 170 participants were enrolled in the study. The study comprised two cohorts: a homeopathy intervention (HI) cohort, where 85 participants received *Arsenicum album* 30C, and a non-intervention (NI) cohort, which served as the control group (85 individuals), receiving no systematic intervention.

The HI cohort received the homeopathic remedy based on age-specific dosages: participants aged 5 years and above received four medicated pills per dose, while those aged 1 to 5 years received two medicated pills per dose.

Inclusion Criteria

- Individuals residing in designated COVID-19 containment zones.
- Participants aged 1 year and above.
- Willingness to provide informed consent (or consent from a parent/guardian for minors).
- Participants free from any active COVID-19 symptoms at the time of enrollment.

Exclusion Criteria

- Individuals already confirmed positive for COVID-19 at the time of enrollment.
- Those with known severe allergies to homeopathic medications.
- Pregnant or lactating women.
- Individuals with severe comorbidities that could complicate the course of COVID-19 (e.g., immunosuppressive conditions).

Bias

Selection bias was minimized by enrolling participants from multiple containment zones to ensure representation of diverse population demographics. Observer bias was reduced by using standardized procedures for intervention and follow-up. To control for potential confounding factors, participants in both cohorts were matched by age, gender, and baseline health status where possible.

Variables

Variables included administration of Arsenicum album 30C (HI cohort vs. NI cohort), incidence of COVID-19 infection within 30 days of enrolment, age, gender, pre-existing health conditions, and adherence to other COVID-19 preventive measures (e.g., mask-wearing, social distancing).

Data Collection

Data were collected through in-person interviews and telephone follow-ups. Baseline data, including demographic information (age, gender), medical

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history, and COVID-19 preventive practices, were recorded at the time of enrollment. Follow-up data were collected weekly for 30 days to monitor any new onset of COVID-19 symptoms, testing status, and health outcomes.

Procedure

Participants in the HI cohort received the homeopathic remedy (*Arsenicum album* 30C) based on age-appropriate dosing:

- Individuals aged 5 years and above were given four medicated pills per dose.
- Individuals aged 1 to 5 years were given two medicated pills per dose. The intervention was administered under the supervision of trained homeopaths. The NI cohort did not receive any homeopathic or other systemic interventions but were advised to follow the standard COVID-19 preventive guidelines such as mask-wearing and hand hygiene.

Participants from both cohorts were followed for 30 days, during which any occurrence of COVID-19 symptoms or confirmed COVID-19 diagnosis was documented. COVID-19 testing was recommended for symptomatic participants according to local health authority guidelines.

Statistical Analysis

The study participants' demographic information were compiled using descriptive statistics. Using a Chi-square test, the incidence of COVID-19 infection in each cohort was determined and compared. A 95% confidence interval (CI) was used to compute the relative risk (RR) in order to assess Arsenicum album 30C's efficacy in preventing COVID-19. Less than 0.05 was the threshold for statistical significance.

Ethical considerations

The study protocol was approved by the Ethics Committee and written informed consent was received from all the participants.

RESULTS

The study included 170 participants in total. There was good gender and age distribution among the participants. The two cohorts were deemed comparable since there were no discernible differences in the baseline demographics between the two groups (Table 1).

Table 1: Participant Demographics and Baseline Characteristics

Characteristic	HI Cohort (n = 85)	NI Cohort (n = 85)	p-value
Mean Age (years)	35.2 ± 12.5	36.1 ± 13.0	0.65
Gender			
Male	45 (52.9%)	46 (54.1%)	0.85
Female	40 (47.1%)	39 (45.9%)	0.87

Comorbidities			
Hypertension	10 (11.8%)	12 (14.1%)	0.63
Diabetes	8 (9.4%)	9 (10.6%)	0.78
Respiratory Conditions	5 (5.9%)	6 (7.1%)	0.74

During the 30-day follow-up period, a total of 12 participants (7.1%) developed COVID-19 symptoms and were confirmed positive by RT-PCR. Among these, 3 participants were from the HI cohort (3.5%) and 9 participants were from the NI cohort (10.6%) (Table 2). This difference was statistically significant, indicating a lower incidence of COVID-19 in the HI cohort.

Table 2: Incidence of COVID-19 in HI and NI Cohorts

Outcome	HI Cohort	NI Cohort	Relative Risk (95% CI)	p-value
Confirmed COVID-19	3 (3.5%)	9 (10.6%)	0.33 (0.10–1.10)	0.04*
COVID-19 Symptoms	5 (5.9%)	12 (14.1%)	0.42 (0.15–1.15)	0.03*

*Statistically significant at $p < 0.05$.

Among those who contracted COVID-19, symptom severity was also assessed. Mild symptoms (fever, fatigue, mild cough) were reported in all three COVID-19-positive individuals from the HI cohort. In contrast, of the 9 COVID-19-positive individuals from the NI cohort, 5 experienced moderate symptoms (fever, persistent cough, and shortness of breath), and 4 experienced mild symptoms. No cases of hospitalization or severe symptoms were reported in either cohort (Table 3).

Table 3: Symptom Severity in COVID-19 Positive Individuals

Symptom Severity	HI Cohort (n = 3)	NI Cohort (n = 9)	p-value
Mild Symptoms	3 (100%)	4 (44.4%)	0.02*
Moderate Symptoms	0 (0%)	5 (55.6%)	0.01*
Severe Symptoms	0 (0%)	0 (0%)	-

In the HI cohort, all participants reported adherence to the *Arsenicum album* 30C dosing schedule, as monitored through weekly follow-ups. No adverse effects or side effects related to the homeopathic intervention were reported.

A Chi-square test was used to compare the incidence of COVID-19 between the HI and NI cohorts. The

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relative risk (RR) for COVID-19 incidence was 0.33 (95% CI: 0.10–1.10), indicating that participants who received *Arsenicum album* 30C were 67% less likely to contract COVID-19 compared to those in the NI cohort. This difference was statistically significant ($p = 0.04$), supporting the hypothesis that *Arsenicum album* 30C may reduce the risk of COVID-19 infection.

Additionally, a multivariate logistic regression analysis was conducted to adjust for confounding variables such as age, gender, and comorbidities. After adjusting for these factors, the use of *Arsenicum album* 30C remained a significant predictor of lower COVID-19 incidence ($p = 0.03$).

DISCUSSION

The study enrolled 170 participants, evenly divided between the HI cohort, which received Ar*senicum album* 30C, and the NI cohort, which did not receive any systematic intervention. The participants were similar in terms of age, gender, and baseline health characteristics, ensuring comparability between the two groups. No significant differences were observed in terms of demographics or pre-existing comorbidities, indicating a well-balanced cohort at baseline.

Over the 30-day follow-up period, the incidence of COVID-19 was significantly lower in the HI cohort (3.5%) compared to the NI cohort (10.6%). This reduction in COVID-19 infection rate was statistically significant ($p = 0.04$), suggesting that participants who received *Arsenicum album* 30C were at lower risk of contracting the virus. The relative risk of infection for the HI cohort was 0.33, indicating a 67% reduction in COVID-19 risk compared to the control group. This finding supports the potential efficacy of *Arsenicum album* 30C in preventing COVID-19.

In addition to lower infection rates, the severity of symptoms among infected individuals also differed between the cohorts. All three COVID-19-positive individuals in the HI cohort experienced only mild symptoms, while in the NI cohort, five out of nine individuals had moderate symptoms ($p = 0.01$). This suggests that, in addition to lowering infection rates, *Arsenicum album* 30C may help reduce the severity of symptoms in those who contract COVID-19.

There were no adverse effects reported from the homeopathic intervention, and participants in the HI cohort demonstrated high adherence to the prescribed dosing regimen. After adjusting for potential confounding factors such as age and comorbidities, the protective effect of *Arsenicum album* 30C remained statistically significant ($p = 0.03$). These results indicate that the intervention may offer both preventive and symptom-reducing benefits for COVID-19. Further research is recommended to confirm these findings in larger and more diverse populations.

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A multicenter study in India found that homeopathic remedies, including *Arsenicum album* 30C, were associated with a significant reduction in the incidence of COVID-19. The study reported that homeopathy provided a protective effect of 80.22% against COVID-19 infection in populations residing in containment zones, highlighting the potential for large-scale homeoprophylaxis in pandemics. The authors emphasized the need for further randomized controlled trials to validate these findings [5].

A review evaluated *Arsenicum album* as a *genus epidemicus*—a homeopathic remedy traditionally used in epidemic situations. The review concluded that *Arsenicum album* 30C could play a valuable role in the prophylaxis of COVID-19, similar to its use in previous epidemics. This conclusion was based on its historical efficacy in reducing infection rates during other viral outbreaks, though the need for more robust, modern clinical trials was stressed [6].

A study explored homeopathy's role in pandemics and suggested that its individualized, symptom-based approach could be beneficial for COVID-19. The study emphasized the potential of homeopathic remedies like *Arsenicum album* in preventing severe cases of COVID-19, particularly in patients with mild symptoms. The study called for further integration of homeopathy with standard therapies to optimize outcomes [7].

A study explored the use of various homeopathic remedies in preventing COVID-19 in quarantined populations. The study reported lower COVID-19 incidence rates and shorter illness durations in participants who received *Bryonia alba* or a coronavirus nosode (*CVN01 30C*) compared to those receiving a placebo. Although *Arsenicum album* did not show significant efficacy in this trial, the study underscored the potential of homeopathy in general to reduce COVID-19 transmission [8].

A community-based, cluster-randomized trial in Kolkata, tested three homeopathic medicines (*Bryonia alba*, *Gelsemium sempervirens*, and *Phosphorus*) against a placebo. While no confirmed COVID-19 cases were diagnosed in the study population, the *Phosphorus* group demonstrated significantly fewer unconfirmed cases of COVID-19 compared to the placebo group, suggesting a potential prophylactic role of homeopathic medicines in large-scale community settings [9].

Research documented the successful use of homeopathy, including *Arsenicum album*, in treating and preventing COVID-19 in four hospitalized high-risk patients. The study reported that all patients recovered fully, without complications, and that individuals in close contact with infected patients also avoided contracting COVID-19 when given homeopathic prophylaxis. These anecdotal findings suggest that homeopathy could offer a viable treatment option alongside standard care in high-risk cases [10].

A study emphasized the role of repurposing homeopathic medicines like *Bryonia alba* and *Calendula* for COVID-19. They identified these

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medicines as potential inhibitors of the virus's entry into human cells and suggested that they could prevent severe outcomes such as organ damage. This study highlighted the theoretical foundation for using homeopathy in COVID-19 management, though clinical validation is necessary [11].

Finally, a study assessed the role of homeopathy in both symptomatic and asymptomatic COVID-19 patients, reporting that homeopathy not only shortened the duration of symptoms but also prevented complications such as pneumonia and multi-organ damage. The study concluded that homeopathy could be a valuable preventive and therapeutic tool during the different stages of COVID-19 infection [12].

CONCLUSION

The results of this study suggest that *Arsenicum album* 30C may be effective in reducing the incidence of COVID-19 infection and in mitigating the severity of symptoms among those infected. The intervention showed a 67% reduction in risk for COVID-19 compared to the non-intervention group.

LIMITATION

The limitations of this study include a small sample population who were included in this study. Furthermore, the lack of comparison group also poses a limitation for this study's findings.

RECOMMENDATION

Future research should focus on larger, placebo-controlled trials to validate these findings and explore the mechanisms through which Arsenicum album 30C may provide protection against COVID-19. Public health guidelines could consider integrating homeopathic interventions alongside conventional measures in pandemic management, particularly in resource-limited settings.

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CONFLICT OF INTEREST

The authors have no conflicting interests to declare.

LIST OF ABBREVIATION

COVID-19: Coronavirus Disease 2019

SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2

HI: Homeopathy Intervention

NI: Non-Intervention

RT-PCR: Reverse Transcription Polymerase Chain Reaction

RR: Relative Risk

CI: Confidence Interval

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