

Usage of *Arsenicum album* 30C as a prophylactic medicine in healthcare workers of a COVID health centre – A report

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Abstract

The homoeopathic medicine *Arsenicum album* 30C was recommended as prophylaxis by the Central Council for Research in Homoeopathy, along with general precautions during COVID-19 pandemic. A retrospective cohort study was conducted in Delhi, India, during May–August 2020 to evaluate the effectiveness of *Arsenicum album* 30C as prophylaxis for COVID-19 in a high-risk group of healthcare workers (HCWs). HCWs ($n = 100$) were categorised into two groups based on the number of days *Arsenicum album* 30C was administered during their duty: 7 days ($N1 = 38$) or 14 days ($N2 = 62$). Participants underwent COVID-19 testing (rapid antigen test/reverse transcriptase-polymerase chain reaction) at the end of duty or earlier if symptoms developed. The incidence of a positive COVID-19 test and/or symptoms were primary outcome measures. The time taken for symptom resolution was the secondary outcome. At baseline, 89% of HCWs were at high risk, as per the World Health Organisation 2019 COV HCW risk categorization. At the end of duty, 98% of HCWs reported negative COVID-19 tests. No COVID-19-like symptoms were observed in the N2 group. In N1, four HCWs developed COVID-19-like symptoms, while two tested positive and recovered within 10 days.

Keywords: *Arsenicum album* 30C, COVID-19, Healthcare workers, Homoeopathy, Prophylaxis

INTRODUCTION

COVID-19 became a pandemic in 2020, and the first case was reported in India in late January 2020.^[1] One of the risk groups for COVID-19 is the frontline healthcare workers (HCWs), who are engaged in the diagnosis and treatment of COVID-19 patients.^[2,3] A meta-analysis estimated that the overall global seroprevalence of SARS-CoV-2 was higher in HCWs (17.1%) as compared to the general population (8.0%).^[4] The COVID-19 vaccination rollout was carried out in India in January 2021. However, vaccine-breakthrough infections have been reported.^[5] In January 2020, the Scientific Advisory Board of the Central Council of Research in Homoeopathy recommended the use of the homoeopathic medicine *Arsenicum album* as a prophylactic medicine against COVID-19 infection. The same was supported by a health advisory given by the Ministry of Ayush.^[6] One study reported that a formulation with *Arsenicum album* as one of the constituents affected HT29 cells and human macrophages.^[7] A few studies have recommended the use of *Arsenicum album* 30C as prophylaxis for COVID-19.^[8-10] This retrospective study attempted to ascertain the usefulness of *Arsenicum album* 30C in preventing COVID-19 in HCWs.

METHODS

A retrospective cohort study was conducted from May to August 2020 in the COVID Health Centre of Nehru Homoeopathic Medical College and Hospital, a government hospital in Delhi, India.

The study participants were frontline HCWs who were involved in providing care to COVID-19 patients in the hospital and had taken *Arsenicum album* 30C as a preventive treatment. All HCWs who were asymptomatic, tested negative for COVID-19 on the 1st day of their duty in the hospital, and were willing to take *Arsenicum album* 30C as a preventive medicine were included in the study. The HCWs who took other preventive therapies were excluded. The participants were categorised as per the World Health Organization COVID-19 risk assessment

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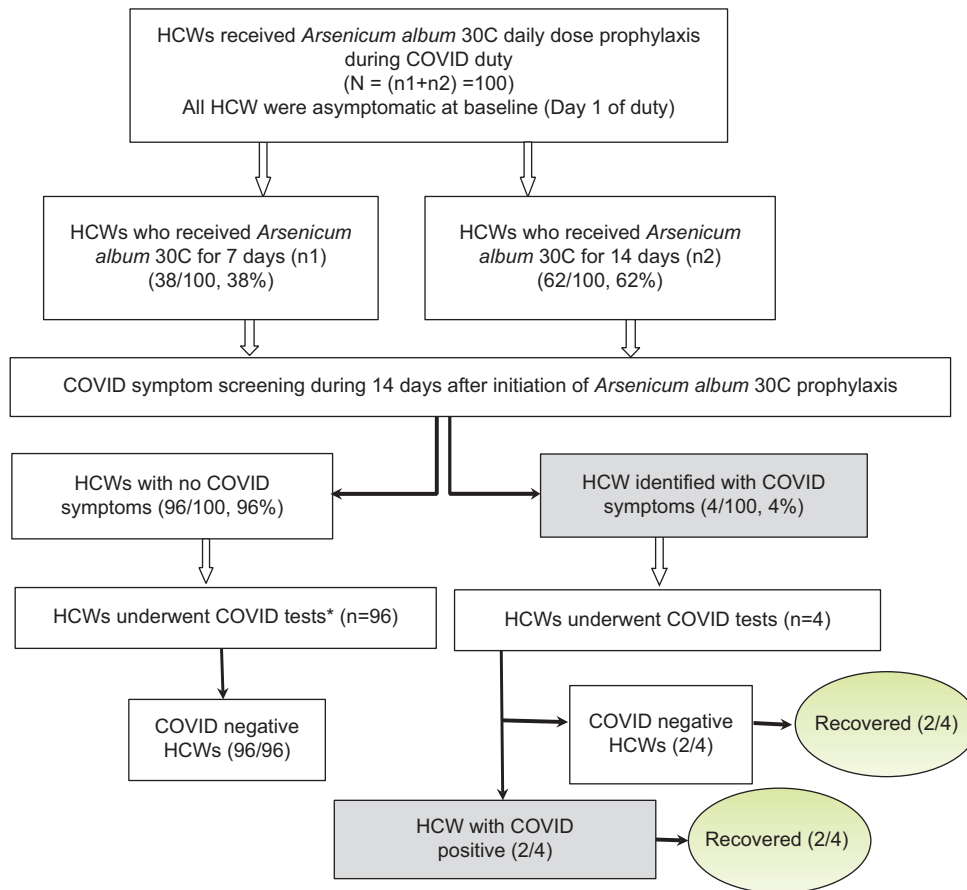


Figure 1: Study flow and findings

guidelines.^[11] The total sample size (N1 + N2) was 100, of which the N1 group received *Arsenicum Album* 30C for 7 days and the N2 group for 14 days.

The HCWs were prescribed one dose of *Arsenicum album* 30C, which comprised four medicated pills to be taken once daily on an empty stomach throughout their duty period. They underwent COVID-19 testing (rapid antigen test [RAT] or reverse transcriptase-polymerase chain reaction [RT-PCR], or both) at the end of their duty period (7 or 14 days) or on the day of developing COVID-19-like symptoms during duty, whichever was earlier. Those who tested positive were either quarantined at home or in an institutional setting or admitted to the same hospital for treatment. The data of symptomatic HCWs were recorded in the form of COVID-19-like symptoms (including fever [$>98.4^{\circ}\text{F}$], oxygen saturation, cough, headache, bodyache and sore throat) and the period of symptomatic recovery. A team of experienced, post-graduate homoeopathic doctors closely monitored COVID-like symptoms in study participants.

The primary outcome measure was a positive COVID-19 test. However to ensure that no symptomatic false-negative case was missed, the presence of any COVID-19-like symptom was also assessed as the primary outcome. The secondary outcome was the time taken (in days) for the resolution of symptoms.

The data, without participant identifiers, were recorded in a Microsoft Excel spreadsheet and analysed using STATA (version 15, Stata Corp., College Station, Texas). The analysis of the data used numbers and proportions to summarise the results.

The study was approved by the hospital authorities and COVID health centre coordinator; however, no ethical clearance could be obtained. This serves as a limitation of the study.

RESULTS

In this study, 100 eligible HCWs were included. Of these, 38 HCWs received *Arsenicum album* 30C prophylaxis for 7 days or less, while the remaining HCWs received the prophylaxis for 14 days (Figure 1).

The baseline characteristics of the study participants are shown in Table 1. The median age of the HCWs was 35 years (with an interquartile range of 25–45 years). 52% of the HCWs were female. The majority of HCWs were nurses (32%), followed by doctors (25%).

Approximately 89% of the HCWs were at risk of COVID-19 infection due to exposure to the virus^[11] in the form of close face-to-face contact ($n = 89$) with confirmed COVID-19 patients or continuous high-risk aerosol-generating procedures ($n = 5$) on suspected COVID-positive patients. All HCWs underwent

scheduled COVID-19 tests, of whom the majority (57%) underwent COVID-19 RT-PCR tests for diagnosis.

Table 1: Demographic and clinical characteristics of HCWs

Characteristics	Number (n=100)
Age group (in years)	
18–24	21
25–34	27
35–44	25
45 and above	27
Median (IQR)	35 (25–45)
Sex	
Male	48
Female	52
Category of healthcare worker	
Doctors	25
Nurses	32
Laboratory technicians	5
Other technicians*	2
Sanitation staff	12
Supporting staff**	24
Presence of comorbidities	
Hypertension	3
None	97
Duration of prophylaxis <i>Arsenic album</i> 30C	
≤7 days	38
14 days	62

*Other technicians include OT technician, Radiology technician; **Supporting staff include Kitchen staff, Security guards, Civil defense staff

COVID-19-like symptoms were reported by four HCWs in the N1 group (2 of them tested positive), and none in the N2 group (all tested negative). The most common symptoms reported by N1 group participants were fever, bodyache, shortness of breath and weakness. Out of the four symptomatic N1 participants, two (2.8%) tested positive for COVID-19. Of these four, three had received prophylactic doses for 7 days and the fourth for 3 days before experiencing symptoms. Amongst the two RT-PCR-positive participants, one, who had received prophylaxis for 3 days, was admitted to the same hospital, while the other, who had received 7 days of prophylaxis, was home-quarantined. Both participants recovered from their symptoms within 10 days. Further, the two symptomatic RTPCR-negative participants recovered from their symptoms within 7 days. The clinical features experienced by the participants during the follow-up period are described in Table 2.

DISCUSSION

The present study is amongst the few studies conducted in India, highlighting the successful implementation of the homoeopathic medicine *Arsenicum album* 30C as prophylaxis in the high-risk group of frontline HCWs engaged in COVID-19 care in a government hospital. The advisory was to take *Arsenicum album* 30 for 3 days and repeat after 1 month. However, in this hospital, the medicine was being given daily for the entire duty period of exposure to COVID-19-positive patients, considering the higher risk of infection in HCWs as compared to the exposure in the rest of the community.

Table 2: COVID-19 clinical features and COVID-19 status amongst HCWs

Characteristics	n	N1 group: received prophylaxis for ≤7 days (n=38)	N2 group: received prophylaxis for 14 days (n=62)
Pattern of COVID symptoms and signs in HCW during 21 days after initiation of <i>Arsenic Album</i> 30C prophylaxis (daily dose)			
SpO ₂ (>95%)	100	38	62
Asymptomatic	96	34 (89.5%)	62 (100%)
Symptomatic*	4	4 (10.5%)	0
Fever	2	2	0
Joint pain	1	1	0
Body ache	3	3	0
Throat pain	1	1	0
Headache	1	1	0
Sore throat	1	1	0
Shortness of breath	2	2	0
Loss of taste	1	1	0
Anosmia	1	1	0
Weakness	2	2	0
HCWs underwent COVID tests (n=100)			
RAT (only)	30 (30%)	15 (39.4%)	15 (24.2%)
RT-PCR (only)	57 (57%)	18 (47.4%)	39 (62.9%)
RAT and RT-PCR (both)	13 (13%)	5 (13.2%)	8 (12.9%)
COVID status of HCWs (n=100)			
Negative	98 (98%)	36 (94.7%)	62 (100%)
Positive**	2 (2%)	2 (5.3%)	0

*More than one symptom or sign were present in one HCW; **Positive: HCWs diagnosed with COVID-19 using either RAT, RT-PCR or both RAT and RT-PCR. RAT: Rapid antigen test, RT-PCR: Reverse transcriptase–polymerase chain reaction, HCWs: Healthcare workers

Although HCWs are at a significantly higher risk of COVID-19 infection,^[12] only four per cent were found to be symptomatic in the present study. It may be attributable to the *Arsenicum album* 30C prophylaxis provided during COVID-19 duty.

Most of the HCWs received prophylaxis for 7 days or more. A recent study reported *Arsenicum album* 30C to be associated with decreased incidence and some protection against COVID-19, as compared to the non-prophylaxis group.^[13] Its role in preventing the worsening of clinical conditions and averting acute complications after COVID-19 must be the subject of further investigation.

The current study presented the ground realities of implementing COVID-19 preventive treatment amongst HCWs in a government setup.

However, a low COVID-19 infection rate amongst the HCWs could also be attributable to other factors like the use of personal protective equipment, sanitation measures in the hospital, and other infection control measures, apart from homeopathic prophylaxis. Further, the COVID-19 diagnostic test method (RAT or RT-PCR) was not consistent during the entire study period, depending on the availability of the testing kits. It is also stated that the outcome of this study pertains to the data from one hospital setup involved in managing mild-to-moderate COVID-19 patients. Hence, these outcomes might differ from other tertiary healthcare setups providing care to patients with severe COVID-19 infection and associated complications and should be generalised with caution.

Despite the above limitations, the outcomes indicate a probable role of homeoprophylaxis in the treatment of infections like COVID-19.

CONCLUSION

This study reflects the probable role of *Arsenicum album* 30C in preventing COVID-19 in frontline HCWs involved in COVID-19 care. Further rigorous trials will aid in updating COVID-19 prophylaxis policies.

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Conflicts of interest

None declared.

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Titre: Utilisation de l’Arsenicum album 30C à titre prophylactique chez les agents de santé du centre de santé COVID Un rapport

Lors de l’indisponibilité du vaccin COVID - 19 en 2020, le médicament homéopathique Arsenicum album 30C a été recommandé comme prophylaxie par le Conseil Central de Recherche en Homéopathie, ainsi que des précautions générales. Une étude de cohorte rétrospective a été menée à Delhi, en Inde, de mai à août 2020 pour évaluer l’efficacité d’Arsenicum album 30C comme prophylaxie du COVID-19 chez un groupe de travailleurs de la santé (TS) à haut risque. Les travailleurs de la santé (n = 100) ont été classés en deux groupes en fonction du nombre de jours d’administration d’Arsenicum album 30C pendant leur service: 7 jours (N1 = 38) ou 14 jours (N2 = 62). Les participants ont subi des tests COVID-19 (test rapide d’antigène/transcriptase inverse - réaction en chaîne par polymérase) à la fin du service ou plus tôt si des symptômes se développaient. L’incidence d’un test positif au COVID-19 et/ou de symptômes étaient les principales mesures de résultats. Le temps nécessaire à la résolution des symptômes était le résultat secondaire. Au départ, 89 % des travailleurs de la santé étaient à haut risque, selon la catégorisation des risques COV 2019 des travailleurs de la santé de l’Organisation mondiale de la santé. À la fin de leur service, 98 % des agents de santé ont déclaré des tests COVID-19 négatifs. Aucun symptôme de type COVID-19 n’a été observé dans le groupe N2. En N1, quatre travailleurs de la santé ont développé des symptômes similaires à ceux du COVID-19, tandis que deux ont été testés positifs et se sont rétablis en 10 jours.

Titel: Verwendung von prophylaktischem Arsenicum album 30C bei medizinischem Personal des COVID-Gesundheitszentrums – Ein Bericht

Während der COVID-19-Impfstoff im Jahr 2020 nicht verfügbar war, wurde vom Zentralrat für homöopathische Forschung das homöopathische Arzneimittel Arsenicum album 30C als Prophylaxe empfohlen, zusammen mit allgemeinen Vorsichtsmaßnahmen. Von Mai bis August 2020 wurde in Delhi, Indien, eine retrospektive Kohortenstudie durchgeführt, um die Wirksamkeit von Arsenicum album 30C als Prophylaxe für COVID-19 in einer Hochrisikogruppe von Beschäftigten im Gesundheitswesen (HCWs) zu bewerten. HCWs (n = 100) wurden basierend auf der Anzahl der Tage, an denen Arsenicum album 30C während ihres Dienstes verabreicht wurde, in zwei Gruppen eingeteilt: 7 Tage (N1 = 38) oder 14 Tage (N2 = 62). Die Teilnehmer wurden bei Dienstdende oder bei Auftreten von Symptomen früher einem COVID-19-Test (Antigen-Schnelltest/Reverse Transkriptase-Polymerase-Kettenreaktion) unterzogen. Die Inzidenz positiver COVID-19-Tests und/oder -Symptome waren primäre Ergebnismaße. Der sekundäre Endpunkt war die Zeit bis zum Abklingen der Symptome. Zu Beginn waren 89 % der HCWs gemäß der COV-HCW-Risikokategorisierung 2019 der Weltgesundheitsorganisation einem hohen Risiko ausgesetzt. Bei Dienstdende meldeten 98 % der HCWs negative COVID-19-Tests. In der N2-Gruppe wurden keine COVID-19-ähnlichen Symptome beobachtet. In N1 entwickelten vier HCWs COVID-19-ähnliche Symptome, während zwei positiv getestet wurden und sich innerhalb von 10 Tagen erholten.

कोविड स्वास्थ्य केंद्र के स्वास्थ्य कर्मियों में आर्सेनिकम एल्बम 30C का रोगनिरोधी दवा के रूप में उपयोग - एक रिपोर्ट

2020 में कोविड-19 महामारी के दौरान, सामान्य सावधानियों के साथ, केंद्रीय होम्योपैथी अनुसन्धान परिषद् द्वारा होम्योपैथिक दवा आर्सेनिकम एल्बम 30C की प्रोफिलैक्सिस के रूप में लेने की सलाह दी गई थी। उच्च जोखिम वाले स्वास्थ्य कर्मियों (एचसीडब्ल्यू) के समूह में कोविड-19 के लिए प्रोफिलैक्सिस के रूप में आर्सेनिकम एल्बम 30C की प्रभावशीलता का मूल्यांकन करने के लिए मई - अगस्त 2020 के दौरान दिल्ली, भारत में एक पूर्वव्यापी समूह अध्ययन किया गया। एचसीडब्ल्यू (N = 100) को उनकी ड्यूटी के दौरान आर्सेनिकम एल्बम 30C लिए जाने वाले दिनों की संख्या के आधार पर दो समूहों में वर्गीकृत किया गया था: 7 दिन (N1 = 38) या 14 दिन (N2 = 62)। प्रतिभागियों का ड्यूटी के अंत में या उससे पहले लक्षण विकसित होने पर कोविड-19 परीक्षण (रैपिड एंटीजन टेस्ट / रिवर्स ट्रांसक्रिप्टेस - पोलीमरेज़ चेन रिएक्शन) करवाया गया। सकारात्मक कोविड-19 परीक्षण और/या लक्षणों की घटना प्राथमिक परिणाम मापदंड थे। लक्षणों के समाधान में लगने वाला समय द्वितीयक परिणाम था। विश्व स्वास्थ्य संगठन 2019 COV HCW जोखिम वर्गीकरण के अनुसार, बेसलाइन पर, 89% HCW उच्च जोखिम वर्ग में थे। ड्यूटी के अंत में, 98% एचसीडब्ल्यू कोविड-19 परीक्षण नकारात्मक आए। N2 समूह में कोई भी कोविड-19 जैसे लक्षण नहीं देखे गए। N1 समूह में, चार एचसीडब्ल्यू में कोविड-19 जैसे लक्षण कसित हुए, जबकि दो का परीक्षण सकारात्मक रहा और वे 10 दिनों के भीतर ठीक हो गए।

Título: Uso profiláctico de Arsenicum album 30C en trabajadores sanitarios del centro de salud COVID Un informe

Durante la falta de disponibilidad de la vacuna COVID - 19 en 2020, el Consejo Central de Investigaciones en Homeopatía recomendó el medicamento homeopático Arsenicum album 30C como profilaxis, junto con precauciones generales. Se llevó a cabo un estudio de cohorte retrospectivo en Delhi, India, entre mayo y agosto de 2020 para evaluar la eficacia de Arsenicum album 30C como profilaxis para la COVID-19 en un grupo de trabajadores sanitarios (TS) de alto riesgo. Los trabajadores sanitarios (n = 100) se clasificaron en dos grupos según el número de días que se administró Arsenicum album 30C durante su servicio: 7 días (N1 = 38) o 14 días (N2 = 62). Los participantes se sometieron a la prueba de COVID-19 (prueba rápida de antígenos/transcriptasa inversa-reacción en cadena de la polimerasa) al final del servicio o antes si se desarrollaban síntomas. La

incidencia de pruebas y/o síntomas positivos de COVID-19 fueron las medidas de resultado primarias. El tiempo necesario para la resolución de los síntomas fue el resultado secundario. Al inicio, el 89 % de los trabajadores sanitarios tenían un alto riesgo, según la categorización de riesgo de trabajadores sanitarios COV de 2019 de la Organización Mundial de la Salud. Al final de sus funciones, el 98 % de los trabajadores sanitarios informaron pruebas de COVID-19 negativas. No se observaron síntomas similares a los de COVID - 19 en el grupo N2. En N1, cuatro trabajadores sanitarios desarrollaron síntomas similares a los de COVID-19, mientras que dos dieron positivo y se recuperaron en 10 días.

标题: COVID 健康中心医护人员使用预防性砷专辑 30C - 一份报告

在 2020 年 COVID-19 疫苗无法使用期间,顺势疗法研究中央委员会建议使用顺势疗法药物砷专辑 30C 作为预防措施以及一般预防措施。2020 年 5 月至 8 月在印度德里进行了一项回顾性队列研究,以评估砷专辑 30C 在高危医护人员 (HCW) 群体中预防 COVID-19 的有效性。根据在值班期间服用砷专辑 30C 的天数,医护人员 (n = 100) 被分为两组:7 天 (N1 = 38) 或 14 天 (N2 = 62)。参与者在值班结束时或出现症状时更早接受了 COVID-19 检测 (快速抗原检测/逆转录酶-聚合酶链反应)。COVID-19 检测呈阳性和/或症状的发生率是主要结果指标。症状缓解所需的时间是次要结果。根据世界卫生组织 2019 年 COV 医护人员风险分类,在基线时,89% 的医护人员处于高风险。值班结束时,98% 的医护人员报告 COVID-19 检测结果呈阴性。N2 组中未观察到类似 COVID-19 的症状。在 N1 中,四名医护人员出现了类似 COVID-19 的症状,两名医护人员检测结果呈阳性,并在 10 天内康复。