

Self-Medication with Modern and Complementary Alternative Medicines in Patients with Chronic Pain

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ABSTRACT

Objective: The study aimed to assess the prevalence, pattern, and determinants of the self-medication practices with modern and/or complementary and alternative medicine (CAM) therapies in patients with chronic pain. **Methods:** The descriptive cross-sectional study was conducted between August 2021 and January 2022 and assessed a representative sample of chronic pain patients visiting outpatient departments in India by administering a semi-structured questionnaire. The survey questionnaire consisted of forty multiple response items, including ten questions that assessed the subjects' sociodemographic profile, for example, age, sex, education, marital status, employment status, residence, and distance of home from any health care facility. The next part of the questionnaire evaluated the practice and determinants of self-medication for chronic pain with modern or CAM therapies. It included thirty questions assessing the reasons, duration, sources of information, procurement methods, preference for a particular system of medicine, knowledge about risks or drug interactions, rationality, perception of the subject, and communication with the physician, among other aspects of self-medication for pain. **Findings:** Out of the 325 respondents with chronic pain, those who practiced self-medication (237) were significantly more in number than those who did not ($P < 0.05$). Among those who self-medicated, the practice was significantly higher in urban participants living closer to healthcare facilities, with better economic backgrounds and higher education ($P < 0.05$). Modern medicine was the predominant choice of self-treatment for chronic pain compared to various CAM therapies ($P < 0.05$). Among the alternatives, homeopathic and ayurvedic systems of medicines were preferred. The main reasons for self-medicating were urgency, ease, previous prescriptions, and presumed mildness of the underlying disease. More than one-third of the respondents opined in favor of continuing self-medication in the future. **Conclusion:** The prevalent practice of self-medication for chronic pain may not be hazardous, but it can turn into a serious problem if not based on correct information. The inherent risks need to be minimized by increasing awareness, health education, and pharmacy regulations.

KEYWORDS: Chronic pain, complementary and alternative medicine, self-medication

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INTRODUCTION

Self-medication is treating self-diagnosed disorders or symptoms with over-the-counter (OTC) drugs without any supervision.^[1] Apart from OTC modern medicines, self-medication is also practiced with the treatment options from Ayurveda, Yoga, Unani, Siddha,

Homeopathy, and traditional complementary and alternative medicine (CAM) systems.^[2,3] There could be many factors leading to these practices, such as

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the inability to visit a physician or a hospital, lack of restrictions on prescription drug sales, easy availability of drugs, cultural beliefs, and religious misconceptions.^[4]

Chronic pain is described as pain that lasts for more than 3 months.^[5] It is a common problem, presented by at least 10% of the world's population at routine outpatient clinics every year, affecting more people than those with diabetes, heart disease, and cancer combined.^[6] Seeking proper medical advice for diverse chronic pain is challenging, and adhering to prolonged management under supervision poses a substantial economic burden to the patients. Self-medication is expected in such patients and involves various pharmacological and nonpharmacological therapies, including options from different systems of medicine.

Although self-medication for chronic pain has advantages for the user in terms of convenience, cost, access to treatment, and self-reliance, it also carries the inherent risks of delayed diagnosis, polypharmacy, and drug interactions, especially when modern other systems of medicines are used together.^[7,8] There are not many research studies on self-medication for chronic pain in the Indian scenario, especially in CAM therapies, with or without the concurrent use of modern medicines. Thus, it was important to carry out this study to analyze the prevalence, pattern, and determinants of the self-medication practices of modern and/or CAM therapies in patients with chronic pain.

METHODS

A descriptive cross-sectional study assessed a representative sample of chronic pain patients visiting outpatient departments (OPDs). The consultants in OPDs of different clinical departments in India were apprised of the study and requested the investigators to inform whenever they encountered a patient with chronic pain. The study was conducted between August 2021 and January 2022. Prior approval for the study was obtained from the Institutional Ethics Committee. Adult patients above 18 years with chronic pain were enrolled voluntarily after taking written informed consent. Patients with acute medical conditions and known cognitive or psychiatric disorders were excluded from the study.

Data collection was done by administering a semi-structured questionnaire to the participants. For this study, the operational definition of self-medication was taken as “the use of modern or CAM therapies for relief of chronic pain without the proper advice of a medical practitioner (physician).”^[1] Chronic pain was defined as the pain persisting or recurring for more than 3 months.^[5]

The survey questionnaire consisted of forty multiple response items. The first part of the questionnaire had ten questions that assessed the subjects' sociodemographic profile, including age, sex, education, marital status, employment status, residence, and distance of home from any health care facility. The next part of the questionnaire evaluated the practice and determinants of self-medication for chronic pain with modern or CAM therapies. It included thirty questions assessing the reasons, duration, sources of information, procurement methods, preference for a particular system of medicine, knowledge about risks or drug interactions, rationality, perception of the subject and communication with the physician, among other aspects of self-medication for pain.

Sample size calculations showed that 322 participants were needed to provide a 95% confidence interval, with $\pm 5\%$ variation for the prevalence of self-medication and CAM usage based on prior studies.^[2,9] Out of the target patients screened for the study, a total of 325 patients were finally included in the study. Evaluation and interpretation of data were made as applicable for the descriptive studies with the help of free *P* value calculators available from <https://www.socscistatistics.com/on> the web. The Chi-square test was used to compare the practice for different demographic parameters. All categorical data were expressed as proportions and percentages.

RESULTS

Out of 325 respondents with chronic pain, 237 (73%) admitted to practicing self-medication. The sociodemographic details of those who had practiced self-medication for chronic pain are presented in Table 1. Self-medication with modern medicines was significantly more common in practice ($P < 0.05$), as shown in Figure 1. The 11% of respondents, who practiced only CAM therapies, preferred homeopathic and ayurvedic systems of medicines over other methods of CAM such as yoga, Siddha, Unani, traditional

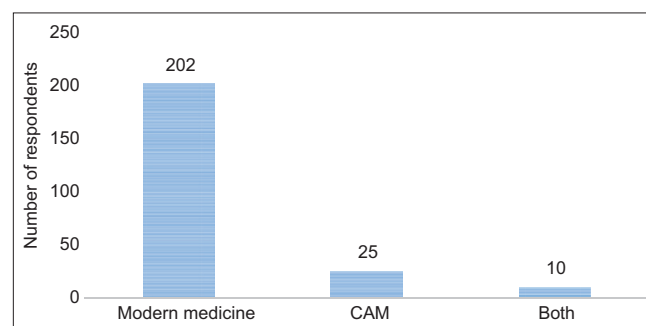


Figure 1: Systems of medicine use for self-medication in chronic pain. CAM: Complementary and alternative medicine

home-based treatments, acupuncture, physiotherapy, and religious or spiritual practices.

Three to 6 months of self-medication for chronic pain was observed in 42% of the study participants. The various reasons quoted for self-medication are depicted in Figure 2. The most common reason was an urgency to use the drugs due to exacerbated pain. The other reasons were: previous good experience with self-medication, use of medications for presumably mild underlying illnesses, and to save time and money. Methods of procurement of drugs are shown in Figure 3. Respondents' knowledge and perception regarding the medication name, dose/

strength, duration, formulation, and adverse effects are shown in Figure 4. A majority (80%) of respondents used drugs through the oral route, followed by topical preparations in sprays, gels, etc., while some used more than one route of administration.

Nearly half of the individuals (47%) thought that they had experienced some kind of adverse effects during the period of self-medication practice. Of these, 39% stopped the medication, 36% visited a nearby hospital for reassurance, and 25% informed about the same to pharmacists, from whom they had procured the drugs. A majority (65%) of the respondents voluntarily discussed the self-medication practices with their doctors.

Different reasons were given for the anticipated benefits of self-medication, the most common being the easy availability and time considerations (132 respondents), followed by the cost factor. Some believed that they expected lesser side effects with self-medication because they knew which medicines suited them. More than half (55%) of the study participants who practiced self-medication believed that the OTC medicines differed from those prescribed by a registered medical practitioner.

Most (86.4%) of the respondents believed that modern medicines should not be taken concurrently with the drugs from CAM systems. Out of the 237 respondents, more than one-third (80 respondents) thought that self-medication for pain was a harmless practice. They favored using self-medication for their personal/family use in the future. Many of such respondents (21%) believed that they might advise others to take self-medication based on their experiences.

Table 1: Sociodemographic characteristics of participants practicing self-medication for chronic pain

Characteristics	Frequency, n (%)	P
Age (years)		<0.001
18-40	90 (37.97)	
40-60	104 (43.88)	
>60	43 (18.14)	
Gender		0.079
Male	105 (44.3)	
Female	132 (55.6)	
Residence		<0.001
Rural	93 (39.2)	
Urban	144 (69.7)	
Education		0.002
Uneducated	45 (18.98)	
Primary education	54 (22.7)	
Secondary education	54 (22.7)	
Graduate/postgraduate	84 (35.4)	
Monthly income (Rs.)		<0.001
<5000	8 (3.77)	
5000-10,000	12 (5.06)	
10,000-20,000	76 (32.06)	
20,000-50,000	122 (51.47)	
>50,000	19 (8.01)	
Distance of residence from any healthcare facility (km)		<0.001
<10	92 (38.8)	
10-20	94 (39.6)	
>20	51 (21.5)	

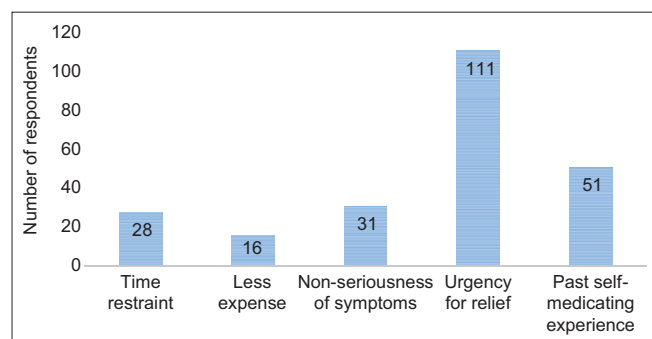


Figure 2: Reasons for self-medication in chronic pain

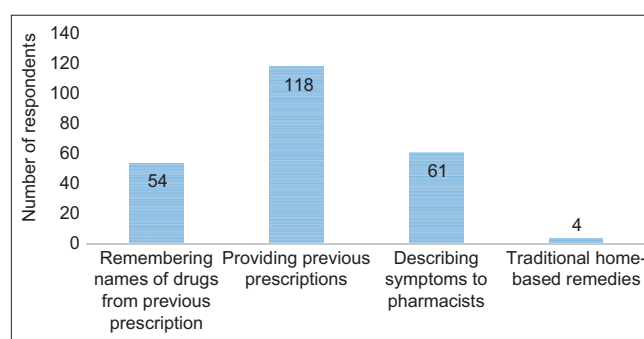


Figure 3: Procurement of drugs for self-medication in chronic pain

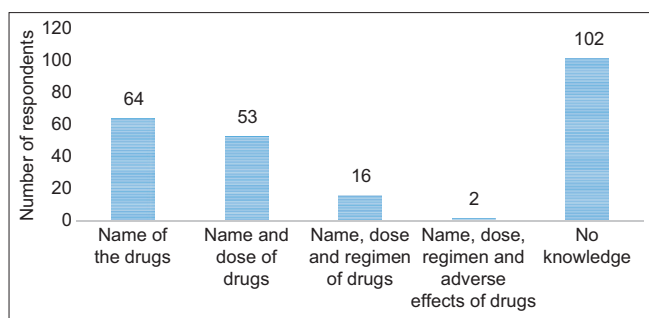


Figure 4: Knowledge regarding self-medication for chronic pain

was practiced by about two-thirds of the study sample. This reflected a high prevalence of self-medication in patients with chronic pain. Many studies have reported similar results and quoted a high prevalence rate for overall self-medication without specifically focussing on chronic pain.^[10,11]

In the current study, the number of those between 40 and 60 years of age practicing self-medication for pain was significantly more than the number in the younger age group. Painful chronic conditions are less prevalent in younger adults and are expected more with age. This was in concordance with other previous studies.^[3,12] But there was a decrease in the practice in more elderly (after 60 years of age). This could be due to apprehension for self-medication, adverse effects in old age, and getting into the habit of tolerating chronic pain. This could also be because the study was conducted during the COVID times, when elderly people are hesitant to visit crowded places like hospitals, and thus could have been excluded.

Even though the prevalence of self-medication tends to vary across studies, the determinants and patterns of practice are similar in many of these. This practice is seen more in females than males^[13-15] although the difference in the current study was not significant. The prevalence was more in females who were married. Reportedly, women suffer more from headaches, muscle pain, and chronic pain conditions, such as migraine, and are used to taking painkillers and muscle relaxants from an early age for pain relief.^[16,17] This observation may implicate a common tendency by the females to neglect to seek proper advice for tolerable pain, due to time constraints and additional responsibilities of the household, children, and other family members, especially in the Indian population where joint families are common.

In this study, self-medication was significantly more common among higher socioeconomic classes and the educated urban population ($P < 0.05$). These results are in concordance with some previous studies.^[3,18,19]

Government-sponsored health treatments are available at minimal cost in most Indian districts, and self-medication could have been less common among low-income groups. The increased prevalence among people with better economic profiles may be due to their inhibition of waiting at crowded government facilities and the fear of missing a day's work. Living in an urban region raised the likelihood of self-treatment, and people appeared to be better informed with the availability of more resources. On the other hand, some studies from Sri Lanka and China observed that the practice was more in the lower-socioeconomic strata.^[10,20] Since socioeconomic status is a challenging determinant to evaluate, most studies on self-medication have ignored it.

The study showed that 85% of the study participants practiced self-medication in chronic pain with modern medicines. This was significantly more ($P < 0.05$) than the rest, who used CAM alone (11%) or in combination with modern medicines (4%). Ayurvedic medicines, herbal preparations, and nutritional supplements were the three most common classes of CAM reported. Previous studies have shown the prevalence of CAM usage up to 40%, but the higher rate could have been due to the inclusion of all indications without being specific for chronic pain.^[21,22] CAM medications are considered safe by the users, but the risk of adverse effects and possible drug interactions remains with these drugs too.^[23] The majority of the study participants obtained information regarding pain medication from previous prescriptions. In our study, showing previous prescriptions or telling names of drugs from previous prescriptions to pharmacists was the most common mode of procuring drugs. This could also be to save time and avoid physician consultation fees sometimes. This was in concordance with other studies in the past.^[24-27]

When asked about the medication name, dose/strength, duration, formulation, adverse effects, and drug/food interactions, most participants admitted to not knowing. Earlier studies have indicated insufficient knowledge about dose and duration, drug interactions, and adverse effects of commonly used drugs.^[28] It was seen that nearly half of the individuals (47%) experienced some kind of presumed adverse effects. Most of such patients stopped the drug, but very few went to consult a physician for the same expected behavior for any form of self-medication. Most respondents thought that modern medicine should not be taken with other CAM drugs simultaneously.

The participants gave different reasons for the anticipated benefits of self-medication. The majority shared that they preferred self-medication because of the easy availability of drugs, time considerations, cost-effectiveness,

and presumably fewer side effects of pain-relieving medications. This is similar to the results of some earlier studies conducted on self-medication for general indications.^[28,29] The attitude toward self-medication may vary from place to place due to differences in access to information, availability, and utilization of medicines. The majority of the respondents voluntarily discussed the use of self-medication with their doctors.

The self-medicating patients in this study were seeking medical attention because they were not satisfied with the pain relief, so the study missed to include those self-medicating people who would have got satisfactory relief and did not need to visit the OPDs.

Although rural patients also visited the tertiary care center for this study, the hospital is located in an urban area, so the patient sample may not have represented the true rural population.

The study was conducted during the COVID pandemic when patients with bearable symptoms wished to avoid crowded clinics or health facilities.^[30] Many such patients might have procured the medicines for chronic pain through pharmacies or used traditional home remedies to avoid visiting hospitals. In normal, non-COVID times, such patients would also have been part of the study.

This study showed that self-medication for chronic pain is common, and many patients actively manage the pain themselves before reaching out for any expert opinion. This practice may not be hazardous, but it can result in serious problems if based on improper information. It may sometimes also lead to increased complications and hospital admissions due to the uncontrolled progression of underlying disease pathology. The OTC painkillers and many CAM therapies do not require a prescription. However, they are not without the inherent risks, which need to be minimized by increasing awareness, health education, and pharmacy regulations.

AUTHORS' CONTRIBUTION

I. Jangra, AK Dubey and E Arora contributed to the concept and design. All the authors contributed to the definition of intellectual content and literature search. I. Jangra, E Arora and BI Peerzada did the data collection. All the authors contributed to data analysis. I. Jangra, AK Dubey and E Arora contributed to the manuscript preparation and all the authors edited the final version of the manuscript.

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Conflicts of interest

There are no conflicts of interest.

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