Research article

Self-medication with herbal remedies: Understanding the practices in Iraqi society

Kadhim Fadhil Kadhim, Hussein Ali Aldabis, Hayder Hasan AL-Kabi, Nrjes Tarq Sary Al-Maliki

Department of Biology, College of Education, Qurna, University of Basrah, Basrah, Iraq

(Received: July 2023 Revised: September 2023 Accepted: September 2023)

Corresponding author: **Kadhim Fadhil Kadhim.** kadhim.fadhil@uobasrah.edu.iq

ABSTRACT

Introduction and Aim: The growing popularity of herbal medicine can be attributed to its accessibility via the internet, cost, cultural tolerance, and perceived compatibility with the human body. However, since not all herbal therapies are safe or suitable for everyone, exercising caution and being mindful of the potential risks associated with their use are essential. The study aimed to determine the frequency, circumstances, and reasons for engaging in self-medication practices. It also explored the impact of self-medication and analyzed gender differences in anxiety levels related to such practices.

Materials and Methods: The research, based on a sample size of 1023 participants, sought to investigate and comprehend the patterns and characteristics of herbal self-medication across different sociological groups while considering various variables.

Results: The research findings indicated notable gender-related disparities in the prevalence of herbal self-medication. No significant differences were observed based on residence. Moreover, educational attainment played a role in self-medication practices, with individuals having postsecondary education displaying the highest inclination. Self-medication was observed across diverse health conditions, ranging from systemic illnesses to chronic diseases. Remarkably, 64.8% of women experienced anxiety, in contrast to only 20% of men, when engaging in self-medication practices. The research findings indicated a higher tendency for self-medication among women, with no notable variations based on residential location. Moreover, individuals with higher levels of education demonstrated a greater inclination towards self-medication.

Conclusion: The most prevalent reasons cited for self-medication were pain relief and inflammation management. Most participants reported experiencing no symptoms after self-medication, while women exhibited higher levels of anxiety.

Keywords: Anxiety; herbal remedies; self-medication; symptoms.

INTRODUCTION

The demand for alternative and herbal treatments has been experiencing a significant surge. These remedies represent the accumulated wisdom of generations of traditional medicine practitioners, spanning hundreds of years. In resource-constrained regions, herbal medications are gaining popularity as primary healthcare options. This is attributed to their cost-effectiveness, cultural acceptance, perceived compatibility with the human body, and reduced likelihood of adverse effects. Furthermore, recent discoveries suggest that not all herbal treatments are safe since certain herbal pharmaceuticals have been linked to serious side effects. Herbal medicine use has risen in recent years, owing to new ways to use it or buy it over the internet, where traditional medicine (herbal) plays an essential part in the economic growth of many nations (1).

The surge in popularity and usage of herbal remedies can be attributed to several factors. First, the minimal cost of these remedies makes them more accessible to a wider population. Second, their natural origin and perceived low toxicity contribute to their wide acceptability. Third, herbal remedies have demonstrated efficacy in managing specific challenging conditions, enhancing their appeal to users. Fourth, the flexibility in preparing and administering herbal treatments further adds to their allure.

Given global financial constraints and challenges, incorporating herbal remedies into health promotion, self-care, and illness prevention can potentially lead to cost savings. As mentioned in recent studies (1) and (2), using herbal remedies presents an opportunity for individuals and healthcare systems to optimize resources while benefiting from the positive attributes of these natural substances.

Thousands of years of traditional usage can offer us useful guidance for herbal formulation selection, preparation, and application. For a therapeutic product to be considered a credible alternative to modern medicine, its safety and effectiveness must undergo rigorous scientific and clinical validation similar to conventional medical treatments (3). On the other hand, people‘s pharmaceutical consumption behavior is a major source of concern for health authorities worldwide (4). The majority of herbal medications on the market today have not gone through a drug approval procedure to prove their safety and efficacy (3).

The utilization of herbal medicine is observed across various gender, social, and racial demographics in developed and developing countries worldwide (4, 5). Herbal medicine is considered a cornerstone of complementary and alternative medicine, experiencing growing acceptance globally and gradually integrating into mainstream healthcare systems (5-8). Various countries have implemented specific laws and regulations to govern the practice of herbal medicine, aiming to establish standards for its quality, quantity, accreditation, and education. These efforts are directed at promoting the safe and proficient application of herbal medicine by traditional medicine practitioners. Additionally, numerous nations have made substantial strides in offering comprehensive and well-structured educational programs in traditional medicine, particularly in herbal medicine, at various academic levels, including bachelor‘s, master‘s, and doctorate levels (1).

Questionnaires aim to systematically and uniformly gather specific facts and information from individuals. Researchers can gather quantitative and qualitative data using questionnaires on a variety of study-related topics, including demographics, attitudes, behaviors, and perceptions (9).

The study’s objective was to examine and comprehend the trends and traits of herbal self-medication among various sociological groups, considering elements like age, gender, educational attainment, and type of dwelling. The study also sought to ascertain the prevalence of herbal self-medication, the circumstances in which it was used, and the reasons for its use. The study also sought to evaluate gender differences in self-medication-related anxiety levels as well as the side effects of herbal self-medication.

MATERIALS AND METHODS

Data collection

Data were collected from various societal groups using both electronic and paper forms in a random manner. The forms were structured with multiple fields encompassing age, gender, academic qualifications, type of housing, and other relevant determinants. Participants were queried about their engagement in self-medication using herbal remedies and the motivations driving their usage. Additionally, they were asked about any symptoms experienced after self-medicating with herbs. The study categorized academic levels from lower primary stages to higher education and classified housing types into village areas, semi-cities, and cities.

Additionally, respondents were queried about their motivations for engaging in self-medication using herbal remedies, which were categorized into four factors: ease of herbal intake (Eth), high cost of consulting a doctor (Hcd), a strong belief in the safety of herbs (Chh), and reliance on internet information without consulting a doctor (Ifi). Moreover, the questionnaire included inquiries about specific disease states for which herbs were used, including pneumonia (Pi), inflammation (In), chronic diseases (Chd), cosmetic reasons (Cd), and systemic diseases (Sd). It’s worth noting that the questionnaire did not request personal information from the participants, such as their name, place of residence, phone number, email, etc.

Statistical analysis

The data underwent analysis using a chi-square test, with a significance level set at $p > 0.05$.

RESULTS

Gender and domicile

Based on the analysis of 1023 collected samples, the study revealed noteworthy gender-based disparities in the prevalence of herbal self-treatment. Women accounted for the highest frequency of self-medication, comprising 42.18% of the respondents, while men constituted 34.1% (Fig. 1). Additionally, residential data did not show significant variations in the tendency to engage in self-medication, with semi-city dwellers demonstrating the highest frequency of use at 39%, followed by city dwellers at 37.9%, and village dwellers at 37.2% (Fig. 2).

Education degree

The proclivity towards herbal self-medication varied among different education levels. The findings demonstrated that individuals with tertiary education exhibited the highest degree of inclination for self-medication, approximately 40%. Those with a secondary degree showed a lower inclination at around 24%, while individuals with primary education displayed a propensity of about 37% (Fig. 3).

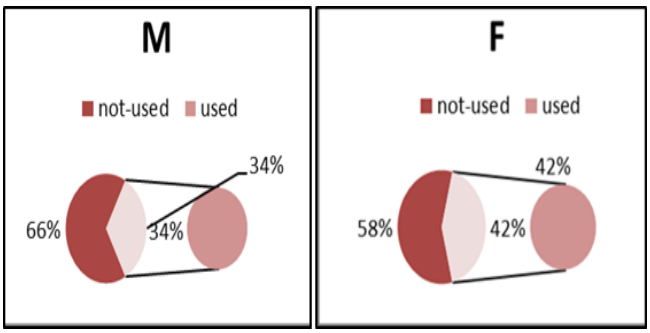

Fig. 1: The proportion of males and females using self-medication with herbs

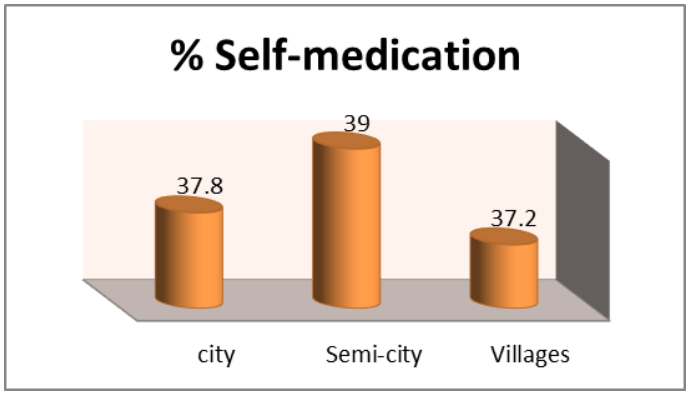

Fig. 2: Percentage of persons who self-medicate using herbs depending on housing

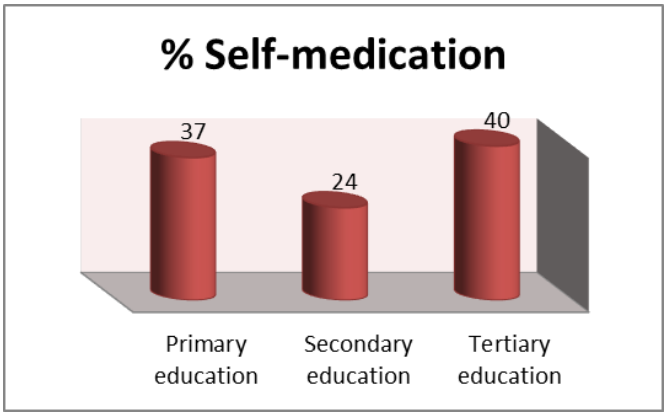

Fig. 3: Percentage of people who self-medicate with herbs based on their educational level

State of illness and motivations for use

The self-medication practice with herbal therapy encompassed a range of pathological conditions, including pain relief (Pa), inflammations (In), chronic diseases (Cd), cosmetic purposes (Co), and systemic diseases (Sd). The analysis of the data revealed that there were no significant variations in the utilization of herbal self-medication across these conditions, with pain relief (Pa) and inflammation (In) therapies constituting the highest percentage of instances (Fig. 4).

Moreover, various factors contributed to the motivations behind herbal self-medication, including the ease of herbal consumption (Et), driven by the high cost of medical consultations (Hcd), a strong belief in the safety of herbs (Hhl), or the availability of sufficient information on the internet without consulting a doctor (Ifi) (Fig. 5). Additionally, the analysis of the relationship between the state of disease and motivations for herbal self-medication indicated significant associations. The chi-square test for independence revealed a p-value of 0.001 for males and 0.003 for females, suggesting significant correlations between the state of disease and motivations in both gender groups.

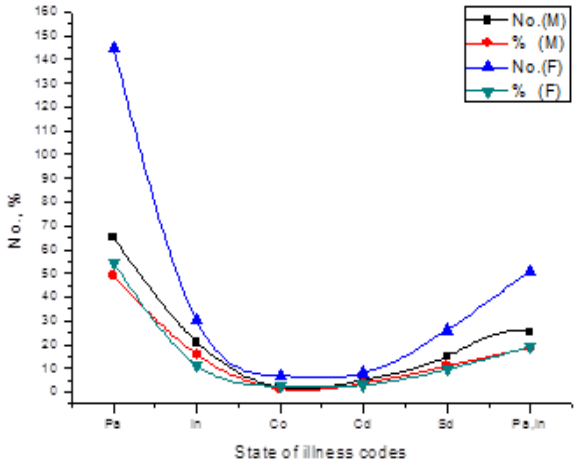

Fig. 4: The disease state of the user for which self-medication

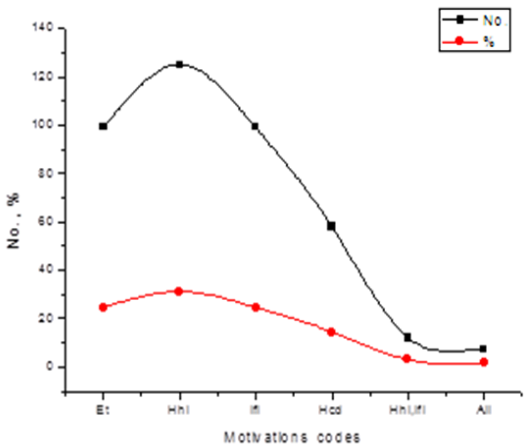

Fig. 5: The motivations for self-medication

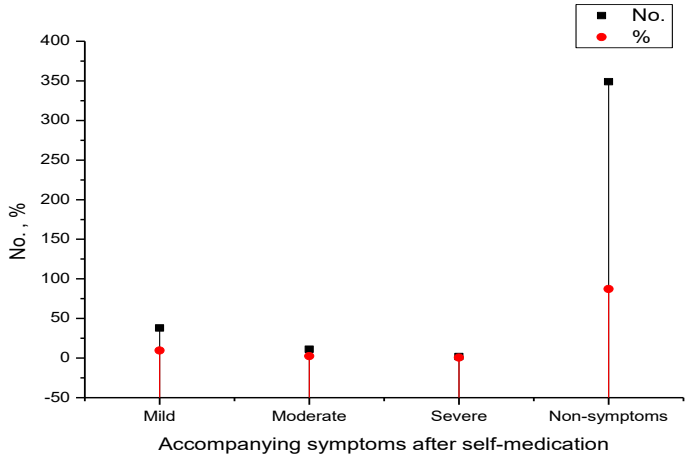

Fig. 6: Accompanying symptoms state after self-medication using herbs

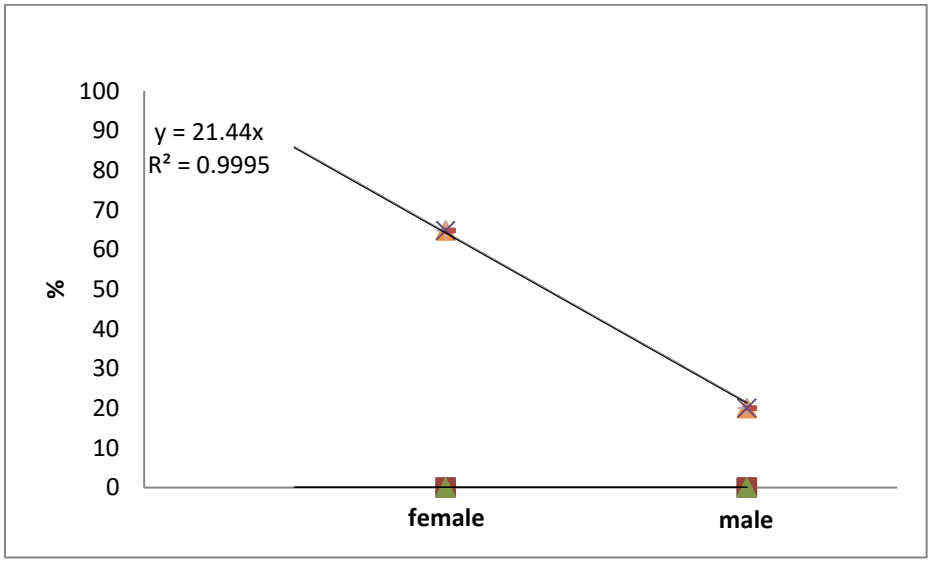

Fig. 7: The anxiety state after self-medication using herbs.

Accompanying symptoms and anxiety after self-medication

Self-medication was associated with a wide spectrum of symptoms, from moderate to severe. It's worth noting that 87.2 percent of individuals who used herbal self-treatment had no symptoms after that, compared to 9.5 percent of those who had mild symptoms, 2.75 percent of those who had moderate symptoms, and 0.5 percent of those with severe symptoms. Additionally, there were notable gender differences in the levels of concern during herbal self-medication. Among females, 64.8 percent reported experiencing anxiety, while only 20 percent of males expressed worry (see Figs. 6 and 7). However, the chi-square test for independence between anxiety state and gender yielded a p-value of 0.126, indicating that the association between anxiety state and gender was not statistically significant.

DISCUSSION

Herbal medicine has gained global popularity, offering a reliable and effective treatment option with established quality and safety. For numerous individuals, herbal remedies serve as their primary or sole means of healthcare, providing accessible and cost-effective treatment close to home. The wide acceptability, affordability, and ease of accessibility have contributed to the widespread trust in herbal medicine among a large population. Regardless of the reasons behind its use, herbal medicine has proven its medicinal efficacy. As illnesses continue to rise, herbal medicine's popularity is expected to grow further in various regions worldwide (10-12).

Throughout centuries, herbal medicines have represented the accumulated therapeutic wisdom passed down through generations of traditional medicine practitioners. In developing countries, there is a significant demand for herbal remedies as they offer cost-effectiveness, cultural acceptance, better compatibility with the human body, and fewer adverse effects, making them essential for basic healthcare. Recent discoveries, however, suggest that not all herbal treatments are safe since certain herbal pharmaceuticals have been linked to serious side effects. The majority of herbal medications on the

market today have not gone through the FDA approval procedure to prove their safety and efficacy (3).

In the current study, societal groups had clear discrepancies about their tendency to self-medicate using herbs. In terms of gender, women had the highest percentage of using therapy (42%), which does not agree with the study in Bangladesh (4). The tendency of females to self-medicate with herbs compared to men may be due to the tendency of women to become more familiar with the importance of herbs from a medical point of view or their use in the field of stimulants or different therapeutic aspects.

The difference between the current study in Iraq and Bangladesh may be due to differences in common social determinants between the two peoples (4). Furthermore, the survey showed a balance between the communities of cities, semi-cities, and villages for utilizing herbs as an alternative to drug-based medical therapy. It might be due to the absence or lack of health, or it could be owing to the financial component of these people's motivations. Presently, herbal medicine continues to hold a crucial role in providing primary healthcare services to rural communities in Africa and Asia. Moreover, it remains deeply ingrained in the cultural practices of numerous nations globally.

Numerous plants and herbal blends boast a long-standing history of traditional folk usage and medicinal assertions (6). For rural regions in Asia, traditional medical practitioners relying on herbal medicine serve as a reliable, accessible, and expeditious means of healthcare, particularly when mainstream medical services are unaffordable or inaccessible. Herbal medicine offers easy availability at a low cost, without the need for prescriptions, even in regions where pharmaceutical products are heavily regulated (13).

Despite popular belief that those with a university education are more likely to seek therapy from a doctor, the current study found that those with a university education are the most likely to use self-medication with herbs. This could be due to continuous reading about alternative medicine, such as the importance of herbal remedies and their active substances. There has been a rise in research initiatives in recent years to validate claims and establish safety and quality control requirements for herbal materials and products. Some herbal products have been scientifically examined for their safety and efficacy to support their claims. The growing faith and acceptance of many herbal products have been aided by scientific verification of their safety and efficacy. Patients have also preferred herbal therapy over pharmaceutical medications for certain disorders (14). On the other hand, it was discovered that the pathological cases employed for self-treatment varied, ranging from pain reliever therapy to infection therapy, cosmetic and chronic illness therapy, and systemic disease therapy.

It's worth mentioning that the women in this research had the highest frequency of utilizing herbal self-medication for beauty treatments, at 5.26 percent. People's confidence in the convenience of taking the herbal cure and the widespread assumption that the herbal therapy would not damage them comprised the strongest incentive for self-treatment with herbs. Furthermore, many individuals get their knowledge from the internet or the media because of the cost of a doctor's visit and medicinal medications. Ayurveda Siddha (AS) and herbal medicine are often employed as a last option in treating some diseases, particularly when conventional medications have failed to provide the intended outcomes or are associated with substantial adverse effects, particularly chronic conditions (10). On the other hand, 87.2 percent of those who were self-treated with herbs had no adverse effects, with the remaining percentages split among mild, moderate, and severe symptoms.

The study also found that only about 20 percent of males experience anxiety after self-treatment with herbs, whereas 64.8 percent of women experience various forms of psychological anxiety after self-treatment with herbs, which could be due to women's fear of the side effects of self-treatment or their fear of the accompanying symptoms. This might explain part of the duplicity in Iraqi women's desire to self-use herbal items and concern afterward, which could be owing to social media's informational collision about promoting some herbal goods but advising against using them at other times on other social media.

CONCLUSION

The popularity of herbal medicine is rising, but it is crucial to exercise caution as herbal remedies may not always be safe or appropriate for everyone. In this comprehensive study involving 1023 participants, researchers explored and analyzed the patterns of herbal self-medication across different socioeconomic groups. The investigation aimed to assess the prevalence of self-medication, examine contextual factors and motivation, and explore potential gender-related differences in anxiety levels associated with self-medication.

The study showed that women were more likely to self-medicate with herbal remedies than men, but no significant differences were found based on residence location. Higher levels of education were linked to a stronger propensity for self-medication. The most frequent justifications for self-medication were pain alleviation and inflammation. Most people reported no symptoms following self-medication, while women showed higher levels of anxiety than men. These results shed light on the prevalence, causes, and effects of herbal self-medication among various socioeconomic groups.

ACKNOWLEDGMENT

We would like to express our gratitude to everyone who assisted us in filling out the questionnaire for our current study in order to obtain more detailed results.

CONFLICT OF INTEREST

The authors declare that there is no competing interest.

REFERENCES

1. WHO Traditional medicine strategy: 2014-2023_ ISBN 978 92 4 650609. 2013.
2. Barrett, B., Kiefer, D., Rabago, D. Assessing the risks and benefits of herbal medicine: an overview of scientific evidence. Alternative Therapies in Health and Medicine. 1999; 5(4):40.
3. Pal, S. K., Shukla, Y. Herbal medicine: current status and the future. Asian pacific journal of cancer prevention. 2003; 4(4): 281-288.
4. Islam, M., Manik, I. N., Zobayed, A., Tabassum, F., Noor, F. Medicine Usage Behavior among Common People of Bangladesh: A Cross-Sectional Analysis. International Journal of Tropical Disease and Health. 2021;42(16):1-6.
5. Selvaraj, K., Kumar, S. G., Ramalingam, A. Prevalence of self-medication practices and its associated factors in Urban Puducherry, India. Perspect Clin Res. 2014; 5(1):32-36.
6. Bent, S. Herbal Medicine in the United States: Review of Efficacy, Safety, and Regulation. Journal of General Internal Medicine. 2008; 23(6):854-859.
7. Moonajilin, M. S., Mamun, M. A., Rahman, M. E., Mahmud, M. F., Al Mamun, A. H. M. S., Rana, M. S., *et al.*, Prevalence and drivers of self-medication practices among savar residents in Bangladesh: A cross-sectional study. Risk Management and Healthcare Policy. 2020;13:743-752.
8. Lokapur, V., Jayakar, V., Shantaram, M. Preliminary phytochemical screening, physicochemical analysis and *in-vitro* antioxidant activity of selected Holigarna species-Endemic plant species of Western Ghats. Biomedicine. 2020;40(4):460-466.
9. Kadhim, K., Mohaus, H. A., Hussein, S. M. Symptoms and complications associated with COVID-19 infection and its vaccination in Iraq: A cross-sectional study. Current Applied Science and Technology. 2023; 23(4):1-13.
10. Shinde, V. M., Dhalwal, K., Potdar, M., Mahadik, K. R. Application of quality control principles to herbal drugs. International Journal of Phytomedicine. 2009; 1(1): 4-8.
11. Mosihuzzaman, M. Herbal Medicine in Healthcare-An Overview. Natural Product Communications.2012;7(6):807-812.
12. Parasuraman, S. Herbal drug discovery: challenges and perspectives. Current Pharmacogenomics and Personalized Medicine (Formerly Current Pharmacogenomics).2018;16(1): 63-68.
13. Philip, F. B. Introductory chapter: Introduction to herbal medicine. In: Philip, F. B., editor. Herbal Medicine. Rijeka: IntechOpen; 2018. p. Ch. 1.
14. Tavakoli, J., Miar, S., Majid Zadehzare, M., Akbari, H. Evaluation of effectiveness of herbal medication in cancer care: a review study. Iran J Cancer Prev. 2012; 5(3): 144-156.