

## Study of educational needs, level of education, and training courses of employees in herbal stores of Chaharmahal va Bakhtiari Province, Iran

Mohammad Rahimi-Madiseh<sup>1\*</sup>, Reyhaneh Eskandarian<sup>2</sup>, Majid Banitalebi<sup>3</sup>, Masoumeh Sadeghi<sup>4</sup>

<sup>1</sup> Medical Plant Research Center, Basic Health Sciences Institute, Shahrekord University of Medical Sciences, Shahrekord, Iran

<sup>2</sup> Nurse of Shahrekord Hajar Hospital, Shahrekord, Iran

<sup>3</sup> Nurse of Shahrekord Kashani Hospital, Shahrekord, Iran

<sup>4</sup> Nurse of Farsan Seyed Al-Shohada Hospital, Farsan, Shahrekord, Iran

Received: 9 November 2020

Accepted: 30 March 2021

**Abstract:** Over 70% of Iranians treat their diseases by using medicinal plants and about 67% of these plants are prepared and distributed by herbal stores. Many people working in the herbal stores do not have specialized or academic education related to medicinal plants. Due to the importance of medicinal plants in human health, this study was conducted to determine the level of education and training courses of employees in herbal stores in Chaharmahal and Bakhtiari Province, Iran.

**Methods:** In this descriptive study, 48 people participated and the method of sampling was convenience. The data collection tool was a questionnaire that was filled out through interviews. The collected data were analyzed using SPSS software.

**Results:** 62.5% of people did not have specialized education related to herbalism. 54.2% of the participants had attended related training courses and 45.8% had not. 70.8% of people had participated in private training courses and 29.2% had participated in university courses. The most important educational need of the participants was related to

\*Corresponding author: Medical Plant Research Center, Basic Health Sciences Institute, Shahrekord University of Medical Sciences, Shahrekord, Iran. Tel: +98 9132840272. E-mail address: m\_rahimi7@yahoo.com

the amount of consumption, followed by side effects and interaction of medicinal plants with chemical drugs. 73.8% of people tended to attend courses offered by universities.

**Conclusion:** Half of the preparation and distribution of medicinal plants is done by inexperienced people with low education. This is an unprofessional behavior and illegal medical intervention that causes many problems and complications in patients. These interventions require correction. Authorized organizations should improve the scientific level of employees using educational interventions and programs and prevent the activities of unauthorized people.

**Keywords:** Educational Needs Assessment, Education, Training Course, Herbalis

## INTRODUCTION

Diseases have always accompanied man and caused him suffering since his birth, and man has resorted to the use of drugs that are often of natural and available origins to relieve the pain and suffering resulting from the diseases. Medicinal plants are among the important sources for the prevention and treatment of diseases, which are available to people in most regions of the world <sup>1</sup>. Information about medicinal plants and herbal medicine is an ancient knowledge that has its roots in the depths of the history of ancient civilizations <sup>2</sup>. 80% of drugs offered in some countries are of natural and herbal origins and 90% of people in different countries use herbal medicines to prevent and treat diseases <sup>3-5</sup>. This rate of consumption among the people of Iran is over 70% <sup>6-8</sup>. 66.8% of the medicinal plants needed by the Iranian people are prepared and distributed by herbal stores <sup>9</sup>. For centuries, herbalism has traditionally been practiced in all parts of Iran by a significant proportion of the people, without having education related to this profession. The teachings were mostly person-to-person and in the form of father-child or teacher-student, thus transferring experiences to the next

generation. Over the past two decades, due to various reasons such as unemployment, profitability, and booming market for the purchase and sale of medicinal plants, more people have tended to use medicinal plants for treatment, which has caused a significant number of people, without having relevant academic education and even without acquiring traditional training, to enter the profession and earn money through it. This is confirmed by the report of the head of the food and drug organization of Tehran University of Medical Sciences, who reported that the number of herbal stores in Tehran increased from 2,000 to 8,000 within five years, which is the same with a slight difference in other cities and so there has been an increasing trend in this profession. It can be argued that a significant number of people employed in this occupation have neither adequate education related to this profession nor the necessary training in medicinal plants. In this regard, the study conducted by Naderi et al. showed that 53.6% of people working in the herbal stores had not received the necessary specialized training in this field <sup>10</sup>. In two field surveys conducted on the education level of medicinal plants suppliers in the cities of Tehran and

Kermanshah, more than 60% of employees in the field of herbalism had high school diploma or lower education<sup>11, 12</sup>. Despite the importance of methods of providing, preparing, maintaining, and using medicinal plants, these data show that a very small percentage of employees in the herbalism have relevant and acceptable education. With all these educational and experimental deficiencies, they have entered to the diagnosis and treatment of various diseases without any obstacles or restrictions and without knowing the therapeutic effects, probable side effects, synergistic effects of simultaneous use of several plants and the interaction of medicinal plants with synthetic and chemical drugs, and prescribe medicinal plants to patients. Although the entry of individuals into this field and the implementation of such interventions are extremely important, thought-provoking, and worrisome for the community health authorities, by checking the departments of the Food and Drug Administration of the Ministry of Health, Treatment, and Medical Education in describing the duties of the General Office of Natural, Traditional, and Complementary Affairs, there is no specific office for monitoring and evaluation of units supplying medicinal plants. Besides, in the three departments for natural products, traditional products, and monitoring and evaluation, which are expected to monitor and evaluate the affairs of herbal stores, there is no specified task have been approved and

no regulations have been loaded<sup>13</sup>. Until January 2020, only in the area of Food and Drug Administration of Isfahan University of Medical Sciences, an access link and an instruction related to herbal stores have been designed and approved, but until the writing of this article, access to the content was impossible due to the inactivity of the access link. Many universities do not even have this inactive link and in the description of the duties of the Food and Drug Administration, there is no reference to the issue of medicinal plants<sup>14-16</sup>. Given the above-mentioned, this study was aimed at investigating the education level and training courses of people working in herbal stores in Chaharmahal and Bakhtiari Province, Iran.

## Methods

This is a descriptive study that was done in March-September 2019. Forty eight individuals from six cities of Chaharmahal va Bakhtiari Province, Iran participated in this study. Convenience sampling was used to select samples. The data collection tool was a researcher-developed questionnaire that was codified based on the objectives of the study. After confirming its validity and reliability by referring to the herbalists and gaining their trust, the questions were answered through interviews and information was

collected. The questionnaire consists of two sections. The first section addresses demographic information (age, gender, education, activity history, job training) and the second section consists of questions about the knowledge of medicinal plants, how to prepare and consume medicinal plants, awareness of side effects and toxicity of medicinal plants and medicinal interactions of these plants, which participants answered with yes and no choices. Finally, after gathering the data, they were analyzed by SPSS.

## Results

The mean age of the participants was  $13.2 \pm 45.3$  years, 93.4% were male and 6.6% female and 87.5% were married and 12.5% single. The mean work experience of the participants in the herbal stores was  $10.1 \pm 17.6$  years. Among the people with academic education in this profession, 37.5% had education related to and relatively related to this profession and 62.5% did not have education related to this profession. 50% of the people working in the herbal stores had been trained and experienced traditionally and through working practices in this field and the

rest had entered the profession due to unemployment or personal interest. Among our participants, 54.2% had attended training courses related to medicinal plants and 45.8% had not attended any training courses. 29.2% of the participants had attended these courses in academic centers and departments and 70.8% in classes held by the private sector. The most urgent educational need of our participants was related to the amount of consumption, followed by side effects and interaction of medicinal plants with chemical drugs. Regarding the scientific position of universities, 73.8% of the participants applied for training courses approved by universities. The education level of our participants is shown in Figure 1 and their rate of participation in training courses is shown in Figure 2.

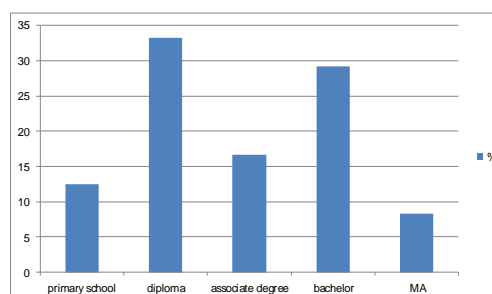


Figure 1: The education level of employees in herbal stores (%)

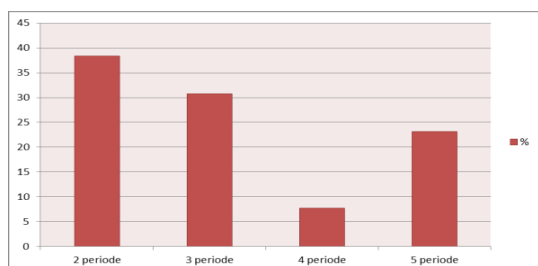


Figure 2: Participants' rate of participation in training courses (%). The maximum length of most of these courses is one week.

## Discussion

Medicinal plants have several active substances that can affect the physiological functions of the body in proportion to their amount and type<sup>17</sup>. Therefore, prescribers or sellers of these plants should be sufficiently knowledgeable about their therapeutic and side effects<sup>12, 18</sup>. To properly use traditional medicine, the World Health Organization has proposed to increase the information and scientific capacity of the staff working in this field for the proper use of different products and treatment methods in this area of traditional medicine<sup>19</sup>. Achieving this goal requires the availability of specific organizations to implement training programs for traditional sellers of medicinal plants in Iran, which by examining the subunits of the Food and Drug Administration at the level of Medical Sciences Ministry and

Universities, such a unit does not exist specifically<sup>13-16</sup>. In this regard, the results of this study showed that 45.8% of people who worked in herbal stores had not participated in any training course related to medicinal plants. Ranjbar et al. also reported that the rate of general and scientific information of half of the participants about herbalism and medicinal plants is moderate and low<sup>12</sup>. 62.5% of the participants did not have specialized training or education related to medicinal plants and profession, which is consistent with the results of the study conducted in Lorestan Province in 2010<sup>10</sup>. One of the noticeable points among our participants, compared to other studies, was the participation of 54.2% of people who worked in herbal stores in training courses related to medicinal plants. The reason for this difference can be the period of the study and possibly the development of universities and academic disciplines related to medicinal plants in different cities of Iran as well as increased access to educational programs in both public and private academic centers<sup>10, 12</sup>. Although in most studies on employees in Iranian herbal stores, their education level was

low and also their fields of study were mostly unrelated to medicinal plants<sup>10</sup>,<sup>11</sup>, the results of this study and other studies show that the mean age of employees is higher than 40 years and their mean work experience is more than 15 years<sup>10-12</sup>. This is a promising and important point in performing therapeutic interventions because according to the experiences and results of studies, at middle age, human learning and experiences will be more fruitful, which can be an effective factor in doing the appropriate work and can have a positive effect on doing the works more efficiently<sup>20</sup>. Although the tendency of most people to use medicinal plants has increased, a substantial proportion of the customers of herbal stores in deprived areas are poor and illiterate, and live in areas far from appropriate and standard medical services<sup>8</sup> who do not have access to other treatment services or experience adverse effects of drugs. Considering that more than half of the employees in this profession do not have education related to plants, especially medicinal plants, and their education level is elementary and first year of high school and there are low-literate and even

illiterate individuals among them<sup>10, 12, 21</sup>, this can lead to risks such as drug poisoning, interference with chemical drugs, adverse effects on the fetus in pregnant women, and many other problems. This issue should be seriously considered by the authorities of health care and medical education to help plan for and provide the required training in a codified, step by step, and continuous manner to improve the scientific level of employees in herbal stores<sup>22</sup>. Considering the thoughts of people about using medicinal plants for maintaining health and treating diseases, as well as the important role of herbalists in strengthening and spreading this culture to improve the scientific level and skills of herbalists according to current knowledge, it is necessary to have experts hold workshops, retraining courses and training programs for people working in herbal stores. Courses that include the necessary training such as learning laboratory concepts to removing their skill and structural barriers, which were mentioned in this study and are some of the requirements to ensure public health, should be held by pharmacists and specialists of Persian traditional medicine. Conclusions and

Suggestions: Currently, about half of the preparation, distribution, and sale of medicinal plants are done by inexperienced people with low education in herbal stores, which is considered an unprofessional behavior and an unauthorized medical intervention that leads to numerous problems and complications in patients. Such unprofessional interventions in Iranian traditional medicine are frequent and should be corrected or stopped. It is suggested that the scientific promotion of people working in herbal stores be organized by the Ministry of Health, Treatment, and Medical Education as well as other reputable scientific organizations and the scientific level of employees in this profession be improved with codified and step-by-step interventions and programs, so that the involvement of profiteers and unauthorized people in this profession can be prevented.

### Acknowledgement

the authors gratefully thank the Vice Chancellor for Research and Technology and the Director of the Medicinal Plants Research Center of Shahrekord University of Medical

Sciences, as well as the herbalists who participated in this study

### References

1. Rahimi-Madiseh, M., M. Amiri, and M. Rafieian-Kopaei, Medication: Herbal or non-herbal? *International Journal of Epidemiologic Research*, 2015. 2(2): p. 50-52.
2. Ghorbani, A., Studies on pharmaceutical ethnobotany in the region of Turkmen Sahra, north of Iran: (Part 1): General results. *Journal of Ethnopharmacology*, 2005. 102(1): p. 58-68.
3. Newman, D.J., G.M. Cragg, and K.M. Snader, The influence of natural products upon drug discovery. *Natural product reports*, 2000. 17(3): p. 215-234.
4. Calixto, B.J., Efficacy, safety, quality control, marketing and regulatory guidelines for herbal medicines (phytotherapeutic agents). *Braz J Med Biol Res*, 2000. 33: p. 2.
5. Lucchesi, M.E., F. Chemat, and J. Smadja, Solvent-free microwave extraction of essential oil from aromatic herbs: comparison with conventional hydro-distillation. *Journal of Chromatography A*, 2004. 1043(2): p. 323-327.
6. Ahvazi, M., et al., The traditional use of medicinal plants in Alamut of Ghazvin. *Journal of Medicinal Plants*, 2007. 4(24): p. 74-84.

7. Bagheri, A., et al., Isfahan women studied approach in the use of herbal medicine. *Journal of Medicinal Plants*, 2005. 4(15): p. 81-93.
8. Golshadi, I., et al., Knowledge, belief and practice of herbal medicine in people of Esfahan. *Journal of Medicinal Plants*, 2002. 2: p. 21-28.
9. Ameri, F., et al., On the relevance of medicinal plants consumers in Iran: investigating statistics for consumers, states of consumption, informative and source area. *Teb&Tazkieh* 2013. 22(3): p. 35-42.
10. Naderi, F., P. NejadSabzi, and B. Rasolian, Survey on supply and demand of medicinal plants in Lorestan province groceries. *Yafte journal of medical sciences (YJMS)*, 2010. 11(5): p. 57-63.
11. Ashayeri, N., et al., The most common plants purchased from groceries Tehran in 1387. *Journal of Islamic and Iranian Traditional Medicine*, 2012. 3(477-482).
12. Ranjbar, Z., et al., Professional characteristics, knowledge level survey and suppliers of medicinal plants in Kermanshah. *Journal of Islamic and Iranian Traditional Medicine*, 2014. 4(3): p. 291-9.
13. [www.fda.gov.ir](http://www.fda.gov.ir).
14. <https://fdo.mui.ac.ir/attari>.
15. <https://fdo.skums.ac.ir/>.
16. <https://fdo.sums.ac.ir/>.
17. Lewis, W.H. and M.P. Elvin-Lewis, *Medical botany: plants affecting human health*. 2003: John Wiley & Sons.
18. Bent, S., *Herbal medicine in the United States: review of efficacy, safety, and regulation*. *Journal of general internal medicine*, 2008. 23(6): p. 854-859.
19. Akerele, O., WHO guidelines for the assessment of herbal medicines. *Fitoterapia*, 1992. 63: p. 99-104.
20. Neugarten, B.L., *Middle age and aging: A reader in social psychology*. 1968: University of Chicago Press.
21. Pirbalouti, A., Medicinal plants used in Chaharmahal and Bakhtyari districts of Iran. *Herba Polonica*, 2009. 55(2): p. 69-77.
22. Khaef-Elahi, A., A. Rajabzadeh, and A. Lajevardi, Model optimization of human resources with emphasis on the role of new technologies. *Journal of Human Resource Management University of Imam Hussein*, 2010. 2(5): p. 1-22.