

**Research Paper****Assessing Shiraz Pharmacies According to Senior-Friendly Criteria**Peivand Bastani<sup>1</sup>, Mina Dehghani<sup>2</sup>, Milad Ahmadi Marzaleh<sup>3\*</sup>

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**ABSTRACT**

**Objectives** With regard to the changes in the Iranian population structure, especially the rise of the elderly population, and the increase in pharmacy clients, this study aimed to evaluate the senior-friendly pharmacies of Shiraz.

**Methods & Materials** This was a cross-sectional study conducted in 2016. The study population comprised all 33 hospital pharmacies in Shiraz. Data were collected by a researcher-made checklist with the aim of evaluating the potential of the pharmacy to transform into a senior-friendly one. Reliability ( $r=0.85$ ) and validity of the checklist were confirmed. Data were analyzed by  $\chi^2$ , Mann-Whitney, and Kruskal-Wallis tests through SPSS 23.

**Results** The average score of pharmacies' potential was 50.52, which indicated a moderate ability of the pharmacies to transform into senior-friendly ones. The results of the Kruskal-Wallis test did not show any significant relationship with pharmacy type and ownership.

**Conclusion** Increase in the number of aging population, average level of senior-friendly pharmacies throughout Shiraz City, and the potential of hospital pharmacies to provide geriatric services can be considered as challenging issues. However, these new challenges can be managed through appropriate planning and policy making.

**Key words:**

Pharmacy, Senior-friendly pharmacy, Aging

**Extended Abstract****1. Objectives**

**R**ising life expectancy has led to the emergence of the "aging" phenomenon in communities [1]. The Iranian elderly population is expected to increase from 8% at present to 22% in 2046 [2, 3].

Pharmacies are vital service centers, and their accessibility is very important [4]. The elderly population's attitude toward pharmacies could affect the health sta-

tus of the population [5]. The World Health Organization proposed the concepts of senior-friendly environment [6], communities [7], and cities in 2004. Planning for the elderly is an important part of health policies. With regard to the physical and emotional problems of the elderly, special attention should be paid to their soothing measures. The rising aging population of Iran and the subsequent need for drugs as well as increased number of visits to pharmacies were some of the important reasons as why Shiraz City pharmacies were evaluated with respect to the senior-friendly criteria.

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## 2. Methods & Materials

This cross-sectional study had a descriptive-analytical approach. The study population comprised all hospital pharmacies in Shiraz. Thus, 33 pharmacies were included in the study through the census sampling method. Data were collected by a researcher-made checklist with the aim of evaluating the potential of the pharmacy to transform into a senior-friendly one. In order to determine the research tool components, the viewpoints of 10 health and pharmaceutical experts were taken into account using the brainstorming method. They studied the checklist and considered it acceptable to measure the potential of pharmacies to transform into senior-friendly ones. During this step, the questions were evaluated in terms of simplicity, relevance, and understandability. Most questions obtained 100% for each criterion. The percentages indicate very high content validity of the research tool. Ultimately, the checklist included four domains with a few questions allocated to each: physical (7 questions), healthcare (16 questions), drug supply and logistics (4 questions), and emotional (1 question), which totaled to 28 questions rated on a 3-point Likert-type scale (1=No, 2=Somewhat, 3=Yes).

Also, two questions were asked about the type of pharmacy (public or private) and its ownership (educational, transfer, proprietary, rental, proprietary educational, rental transfer and proprietary transfer). Intraclass correlation coefficient was obtained as 0.850 and Cronbach  $\alpha$  as 0.9. The questionnaire scoring was as follows: those pharmacies which scored between 28 and 42 were poor in terms of senior-friendliness,

a score ranging between 43 and 56 was moderate, a score between 57 and 70 was good, and a score between 71 and 84 was considered very good. The checklists were completed by researchers after obtaining the pharmacists' viewpoints. Data analysis was conducted by performing Kruskal-Wallis, Mann-Whitney, and Chi-square tests. All tests were done by SPSS 23.

## 3. Results

A total of 33 hospital pharmacies completed the checklist among which 19 pharmacies were public and 14 were private. The frequency and ownership of public pharmacies were as follows: 10 (52.6%) pharmacies, educational; 2 (10.5%) pharmacies, transfer; 2 (10.5%) pharmacies, proprietary; 1 (5.3%) pharmacy, rental; 2 (10.5%) pharmacies, proprietary educational; 1 (5.3%) pharmacy, rental transfer; and 1 (5.3%) pharmacy proprietary transfer. Also, the frequency and ownership of private pharmacies were as follows: 6 (42.9%) pharmacies, transfer; and 8 (57.1%) pharmacies, proprietary. The mean and standard deviation for each domain of senior-friendly pharmacies are shown in Table 1. In public pharmacies, emotional area had the highest mean and the healthcare the lowest mean in terms of senior-friendliness. In private pharmacies, emotional area had the highest mean and drug services' supply and logistics the lowest mean value. Since the older adults are emotionally and psychologically more vulnerable, the pharmacies should pay more attention to these aspects. The state of public pharmacies in terms of senior-friendliness was as follows: 26.3% (5 pharmacies) were at weak level, 47.4% (9 pharmacies) at average level, 21.2% (4 pharmacies) at good

**Table 1.** The mean and standard deviation of different domains of senior-friendly pharmacies

Type of Pharmacy	Area	(Mean±SD)
Public	Physical	(0.423±1.977)
	Health care	(0.368±1.628)
	Drug services supply and logistics	(0.727±1.842)
	Emotional	(0.63±0.789)
Private	Physical	(0.395±0.122)
	Health care	(0.383±1.674)
	Drug services supply and logistics	(0.61±1.625)
	Emotional	(0.484±2.878)

level, and 5.3% (1 pharmacy) was at very good level. The results of private pharmacies were as follows: 14.3% (2 pharmacies) were at weak level, 64.3% (9 pharmacies) at average level, 21.4% (3 pharmacies) at good level and no pharmacy was at a very good level. The average score of convertibility of pharmacies in Shiraz to senior-friendly ones was 50.52, which indicates an average level in terms of senior-friendliness. The results of examining the relationship between the type of pharmacy and the final score of convertibility to senior-friendly ones showed no significant correlation ( $P=0.9$ ). The results of the Kruskal-Wallis test to determine the relationship between the final score of senior-friendly pharmacies and the type of ownership showed no significant correlation between these two variables ( $P=0.84$ ). This could be due to the fact that public hospitals, irrespective of having public or transferring pharmacy, have not considered the topic of older adults and their requirements as a serious concern yet.

#### 4. Conclusion

It seems that the present research tool can be useful for evaluating the pharmacies in terms of their potential to transform into senior-friendly ones. Further studies in this area at the national level can help health policymakers in the proper and rational planning for the elderly and thus prevent the increasing burden of disease among them. Due to the increasing population of older adults and the aging society, the readiness of pharmacies in Shiraz to provide services to the elderly is one of the most challenging issues in the long term. The problems of the elderly in the future can be reduced with proper policymaking on healthcare systems, especially pharmacies. Also, taking steps toward senior-friendly pharmacies, communities and associations can prepare society for the future when we will encounter a very large population of elderly people.

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#### Conflict of Interest

The authors declared no conflicts of interest.