



Anticipating Future Geriatric Pharmacy Services in Iran

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Iranian population, in an alignment with the global trend, is faced by an increase in the median age of its population (1). According to Ali Akbar Mahzoon, the General Director of Population, Labor, and Census at SCI, 47 percent of Iran's population is between the age of 30 to 64 and 9.9 percent of it (8.3 million) are above 60 years old (1). The rate of population ageing in Iran has been predicted to rise to 10.5% in 2025 and to 21.7% in 2050 (2). In a similar fashion, according to the World Health Organization, between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22% (3).

Population ageing has imposed challenges ahead of health care systems, as comorbidities and polypharmacy are prevalent in elderly population creating economic and public health issues. Elderly's well-being needs have become one of the largest areas of expenditure in most countries particularly on account of significant increase in medication utilization (4). Therefore, any attempts to optimize geriatric pharmaceutical care have direct impacts on the improvement of public health and the associated cost. Many older adult populations are suffering from multiple chronic diseases include hypertension, diabetes, high cholesterol, congestive heart failure, cancer, and dementia that demand complex medication regimens. The heterogeneity of the older adult population, along with physiologic changes of ageing have complicated their care, and have exposed them at higher risk of drug toxicity, medication adverse effects, and hospital admissions. In this circumstance, it is necessary to implement multidisciplinary, comprehensive care approaches to not only mitigate the economic burden on health care systems, but also decrease medication related problems.

Pharmacists, as drug experts, have been demonstrating

great capabilities in providing direct patient care, as they have a broad knowledge on different disease states, pharmacogenomics, pharmacodynamics, pharmacokinetics, drug interactions, and pharmacoeconomics that have rendered them as valuable resources at different medical settings. Geriatric pharmacy practice evolved in the mid-1970s in the USA, and the 1980s-1990s in other developed countries (5). Currently there are thousands of Board Certified Geriatric Pharmacists in the United States who are providing direct patient care, educating other health care providers advocating for appropriate medication use in older adults to improve public health (6). American geriatric society, a non-profit professional society for health care professionals practicing geriatric medicine, has also endorsed geriatric pharmacy as a profession to provide a thorough review of medications for patients and are trained to be aware of the needs of older adults, reside in long term care facilities or visit ambulatory care settings (7).

Despite a growing body of evidence exhibiting beneficial roles of establishing geriatric pharmacy services, it has not yet been well recognized in Iran. Results from a study conducted by Kargar et al that evaluated the rationality of prescribing and determining the extent of inappropriate prescribing in a sample of geriatric patients in Tehran in 2019, have identified inappropriate prescribing patterns in the management of elderly's medication therapy (8). Likewise, the lack of age-friendly pharmacies in Iranian metropolitan areas have shown in Bastani et al work, which is an indicative of underutilization of pharmacists in this area of specialty (9).

The present state of the pharmacy education can benefit from implementing geriatric pharmacy Pharm.D curriculum at

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the national level, and assigning pertinent practice sites to prepare future pharmacists for responding to a growing pharmaceutical care needs of older adult population. The American Association of Colleges of Pharmacy (AACP) in collaboration with the American Society of Consultant Pharmacists (ASCP) produced Geriatric Curricular Resources in 1997(10). A series of didactic and elective courses combined with advanced experiential practices are needed to fulfill preliminary requirements of geriatric pharmacy. In a study carried out by Joseph et al, geriatric care as an Introductory Pharmacy Practice Experience (IPPE) have been evaluated. Results from their work have shown that a required 2-unit geriatric IPPE, involving 40 hours in a geriatric-care facility, 5 reflection hours, and 12 classroom-discussion hours can enhance pharmacy student's ability to meet the pharmacotherapy needs of geriatric population. Furthermore, holding continuing education sessions and certifying programs in geriatric pharmacy are also recommended for preparing registered pharmacists.

To successfully establish such a new program, one question at hand is how feasible it is to make a series of changes with limited amount of resources? One resolution is to effectively utilize the current available capacities. Cooperation with the department of Medical Geriatrics at Tehran University of Medical Sciences is an example of the resource optimization in training pharmacy residents or pharmacy students. According to Noroozian, in an evaluation of the future of geriatric medicine in Iran, raise social awareness about age related disorders can contribute to a better appreciation of these services (12).

There are also obstacles that decision-makers should be aware of and be prepared for. The first and foremost challenge is the recognition of geriatric pharmacy services by national health authorities. This recognition provides required funding needed to train sufficient number of geriatric pharmacy experts as well as enforcing insurances to reimburse pharmacists services. Furthermore, geriatricians support is also essential for ensuring the success of this program.

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