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Towards Age-Friendly Hospitals in Developing Countries: A Case Study in Iran

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ABSTRACT

Background: Developing countries such as Iran are experiencing a growth in the elderly population. This is a challenge for healthcare providers and their families. This study investigated the extent in which hospitals at Tehran meet the criteria of age-friendly hospitals.

Methods: In this descriptive study, using convenience sampling, 26 hospitals were selected in Tehran, the capital city of Iran. The instrument was a checklist included 50 items in the three dimensions of information and training of service providers, management systems in health care centers, physical environment and accessibility of hospitals.

Results: Most hospitals were in a good condition regarding physical environment and access to public transportation, but in a poor condition for special healthcare programs for the elderly, teaching principles of geriatrics and gerontology, interaction of medical staff, physicians and nurses with senior patients and systems of priority for them.

Conclusion: Due to the growing elderly population, it is necessary for health policymakers, especially in developing countries, to consider seriously the issue of elderly healthcare and their need for special outpatient and inpatient services.

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Introduction

Improvement in health care quality and economic development has increased the human life expectancy[1] and this has caused overall increase in growth of elderly population. Accordingly, many low- and middle-income countries are now facing a number of challenges including double burden of disease, costs of providing health care for ageing populations, increased risk of disability in senior people and economic issues of an ageing population.[2-4]

The governing body of the World Health Organization (WHO) is interested in providing healthcare facilities for the elderly. The approval of the Vienna International Plan of Action on Ageing in 1982 provides a basis for formulation of policies and programs on aging. Since then, aging

and its health and medical related issues have been a top priority in different countries.[5,6] According to the WHO, population aging occurs faster in low- and middle-income countries, and in 2012 report of the WHO announced that Iran together with Cuba and Mongolia were the three countries with the most dramatic changes.[7] In a national census in 2011, Iran had a population of 75149669 people, with a six million elderly (+60) population (about 8.2%).[8] The data in Table 1 shows the elderly population changes over the last few decades. Iran has a population of 75 million and there is a rising trend in the elderly population due to advancement in primary health care and services. It is predicted that due to the large quantity of people born in the 1980s, the elderly population of Iran would reach 25% in 2050. Iran comprises 31 provinces, Tehran province is the most populated province in the country with more than 12 million population, and most of the elderly people of the country are living in this province.[8]

Table 1: Elderly population changes in Iran during the last few decades

Year	1976	1996	2006	2011	2050
Elderly Population	1770614	2595181	5121043	6159676	25900000

Due to high costs of supplying healthcare for elderly population and more length of stay than other age groups, the health system of Iran must be prepared for increasing demands of the future elderly population with common conditions such as falls, incontinence, immobility and confusion.[9,10] Moreover, increasing visits to hospitals and healthcare centers and the prevalence of chronic diseases in the elderly inflict very high costs to Iran's health system. Therefore, health policymakers need to focus on the facilities and infrastructures necessary for provision of preventive and diagnostic healthcare services to the elderly. However, welfare and social issues associated with aging should not be overlooked.

Given the growing elderly population, WHO called for special attention to elder-friendliness of hospitals.[11] Physical aspects of elder-friendly hospital is defined as features of environmental design including safety, physical, social and psychological needs of older adults.[12,13] A variety of services are provided in elder-friendly hospitals, including easy access to hospital, appropriate timing for visits, health services and medical care, training staff, appropriate physical environment, toilets and signboards, inpatient services, admission and billing for senior patients.[11,14,15] WHO has specified certain principles for age-friendly hospitals as follows:

1. Information, education, communication and training including training staff in clinical geriatrics and approaches to patient education.
2. Health care management systems, including adopting administrative procedures such as patient registration, considering special needs of the elderly and supporting the continuity of medical care by having updated medical records ready and available at each visit.
3. Physical environments with clean and comfortable centers that adhere, as much as possible, to universal design principles, thus making them usable by people regardless of their age or disability.[10]

In 2008, WHO published a guideline for age-friendly primary health care centers. The guideline intended to improve primary health care responses, educate primary health care workers about specific needs of their older clients and raise awareness of accumulation of minor and major disabilities experienced by older people. Furthermore, it provides guidance on how to make primary health care management procedures more responsive to the needs of elderly, and how to do environmental audits to test age-friendliness.[11] This guideline was developed after a background research in primary health care models and focus groups including older people and their health

care providers in six countries (Australia, Canada, Costa Rica, Jamaica, Malaysia and the Philippines).[11] Parke and Brand believed that a cultural shift should be occurred in managers and providers of health services and medical care to meet special needs of elderly and think in a different way about caring for senior patients in hospitals and health care centers.[16,17] They developed a framework for elder-friendly hospital in Canada comprising four areas including care systems, policies and procedures, social cultural and behavioral atmosphere and physical environment design. The framework has clearly defined vision, mission and principles of hospital care for elderly patients.[17,18] Woo et al. studied elderly care services in Hong Kong and highlighted some challenges such as lack of well-developed primary health care system and high rate of elderly population, while there are enough trained geriatrician and geriatrics hospitals all over the region, and day care centers and home care teams are available for the elderly based on community services.[19] Chiou and Chen developed a framework for health-promoting and age-friendly hospitals in Taiwan based on the basic principles of WHO for age friendly hospitals which included four similar domains to WHO guideline as management policy, care processes, communication and services and physical environment.[9] Another framework was developed for geriatric acute care by Boltz et al. in the United States.[20] The core components of this framework were organizational structures, guiding principles, interdisciplinary resources and processes, leadership, suitable physical environment, patient- and family-centered approaches and competent staff in geriatrics and elderly-sensitive practices. Each of these domains as a cluster had some sub-domains. A total of 113 items described dimensions of these elements. They believed that one of the challenges in implementation of a geriatric acute care model is lack of outcome and process measures to assess the quality of aging-specific care in hospital setting.[20]

Rashmi studied two hospitals in Bangalore City of India based on WHO toolkit and developed an assessment tool as a checklist to assess the preparedness of healthcare centers and hospitals in response to the needs of elderly persons.[14] Huang et al. believed that healthcare for the elderly people in acute care hospitals are becoming more challenging. They developed guideline principles in this regards and proposed a paradigm shift in the principles and practice in age friendly hospitals of Quebec, Canada. Their framework included these domains; a suitable physical environment, zero organizational tolerance for ageism, using the geriatric approach with an integrated process to develop comprehensive services in the organization, assistance with suitability decision-making and development relations between hospital and community.[21]

Woo assessed current health service provision for older adult in Hong Kong based on WHO principles of age friendly hospitals and identified some desirable improvement in all fields of health care services for the elderly.[22]

In conjunction with The Regional Geriatric Programs (RGPs) of Ontario, the RGP Network in Toronto developed a five-domain framework for Senior-Friendly Hospital (SFH) care. This framework contained five domains; processes of care, physical environment, emotional and behavioral environment, ethics in clinical care and research and organizational support. It could be used as a toolkit to help policy makers, healthcare professionals and administrators to think differently about acute care in elder friendly hospitals and lead to development towards becoming a more elder-friendly healthcare system.[13] Wong et al. using the Regional Geriatric Programs (RGPs) of Ontario framework in a system-wide analysis, studied 155 adult hospitals in the province of Ontario, Canada and identified practice gaps and some hopeful practices in this framework. Their study showed that one of continuing challenges faced with Ontario adult hospitals is recruiting staff with adequate expertise and skills in the care of older adults, but a success point most of hospitals had policies and procedure guiding advance care directives.[23]

While there is increasing interest in the application of Senior Friendly Hospital models in developed countries, relatively little has examined specific issues arising in developing countries such as

Iran and lack of knowledge and evidences is obvious in this area. As in Iran there is no special health care services or hospitals for the elderly, the purpose of the present research was to examine the age-friendliness of public hospitals in Iran and provide background insights and knowledge for Iranian policymakers regarding the health of the elderly.

Materials and Methods

In this descriptive research, the current condition of health care services to the elderly was examined in public hospitals in province of Tehran based on the WHO age-friendly principles.[10,11] Iran comprises 31 provinces and Tehran Province is the most populated province in the country with more than 12 million populations. In this province, there are 50 public hospitals under the supervision of the Ministry of Health and Medical Education and there is no special hospital for senior in the province and across the country. Out of these 50 public hospitals, 22 hospitals including Pediatrics, psychiatrics, gynecology and obstetrics hospitals and two general hospitals, which refused to participate in this study, were excluded. Finally, 26 hospitals that rendered healthcare to senior patients were included.

The instrument for data gathering was a checklist with 50 items. To prepare the checklist, the age-friendly toolkit published by WHO and Rashmi's checklist were translated by two translators and localized by health experts.[11,14] The checklist was sent to 5 experts and their opinions were considered in the checklist and the final checklist was approved by research team. The final checklist consisted of 50 items in three dimensions of information and training of service providers, management systems in health care centers and hospitals and physical environment and access to hospitals.

The data was collected through direct observation and using structured interviews. The questions were based on the items in the checklist. The researcher asked the questions of the checklist from managers of all hospitals and filled out the checklist. The data was refined and then analyzed using SPSS software (IBM Corp. IBM SPSS Statistics for Windows, Version16. Armonk, NY: IBM Corp). To examine the current condition of healthcare services to the elderly based on the age-friendly principles, the frequency and percentage of answers to each item (yes, no or somewhat) were reported to show strengths and weaknesses of the studied hospitals.

Ethical Considerations

The ethic committee of research of Iran University of Medical Sciences approved this study.

Results

Table 2 shows the condition of hospitals according to the first dimension of WHO framework focusing on information, education and communication and training staff in clinical geriatrics and approaches to patient.

Table 2: The Condition of staff training for senior's care

Subscales	Items	Yes		No		Somewhat	
		F	%	F	%	F	%
Information and training	There are instructions for providing preventive services, especially the counseling to target the three common risk factors of smoking, physical inactivity and unhealthy diet.	7	27	10	38	9	35
	Hospitals have protocols to screen senior patients.	1	4	21	81	4	15
	Physicians, nurses and staff are trained in proper verbal and non-verbal communications with senior patients.	0	0	16	62	10	38
	Physicians and nurses are trained in the four geriatrics giants.	2	8	18	69	6	23
	Hospital staff is trained in the four geriatrics giants.	0	0	23	88	3	12
	Hospital staff is trained to provide preventive services and counseling to target the three common risk factors.	0	0	20	77	6	23

Regarding information and training, 81% of hospitals lacked protocols for screening senior patients and the staff of 88% of hospitals were not sufficiently trained in the four geriatrics giants of memory loss; urinary incontinence, depression and falls/immobility (Table 2).

Table 3 illustrates the status of hospitals regarding the health care, medical and in-patient services for the senior patients based on the WHO framework for senior friendly hospitals in the domain of health care management systems, including adapting administrative procedures such as patient registration and attention to special needs of the elderly people.

Table 3: The condition of hospitals for health care, medical care and in-patient care services

Subscales	Items	Yes		No		Somewhat	
		F	%	F	%	F	%
Health care and medical care	Patients older than 60 are counseled, examined, treated and followed up annually.	0	0	19	73	7	27
	There is a system of priority for seniors in pharmacy to collect drugs.	2	8	18	69	6	23
	Volunteers are available to guide seniors through different sections of the hospital.	1	4	18	69	7	27
	There is a system of priority for seniors in all service sections of hospital.	0	0	26	100	0	0
	Explanations are provided for senior patients about prescribed drug at the pharmacy.	7	27	12	46	7	27
	There is a separate queue for seniors at all counters.	0	0	26	100	0	0
	Hospitals provide home health services, where hospital staff visits them at homes of seniors if required.	1	4	24	92	1	4
In patient care	Hospitals have a designated care coordinator for senior patients.	0	0	26	100	0	0
	Geriatric physicians are available in hospital.	1	4	25	96	0	0
	Screening is performed in hospitals.	0	0	23	88	3	12
	There is a separate multispecialty clinic for seniors in the hospital.	0	4	25	96	1	4
	Caregivers for senior patients are available by the hospital if required.	6	23	17	65	3	12
	There is a separate ward for senior patients.	0	0	26	100	0	0
	There is some form of recreation for senior patients.	5	19	13	50	8	31
	There is a prayer hall in every ward.	14	54	8	31	4	15

Table 3 shows that hospitals did not have a special ward and lack of a system of priority for elderly persons. Besides, senior patients older than 60 are not counseled, examined, treated and followed up annually. This table indicates that none of the hospitals had a designated care coordinator for senior patients (only in one hospital, there was a geriatric physician available for elderly patients).

None of the hospitals had an appropriate schedule for admission time for the elderly, and did not have a special telephone line and a system to remind senior patients of their appointments. None of the hospitals had a system of priority or

separate counter for admission and billing of senior patients (Table 4). As shown in Table 5, 88% of hospitals had signboards in all-important areas, while in most hospitals; the words and signage were not displayed in the local language

Table 4: The condition of hospitals for ideal timing for visits of elderly and admission and billing

Subscales	Items	Yes		No		Somewhat	
		F	%	F	%	F	%
Ideal timing for visits	There is a system of giving appointments and reminders for seniors.	0	0	26	100	0	0
	Setting appointments for seniors does not take much time.	1	4	18	69	7	27
	There is a system of concessions for senior patients in the cost of services.	0	0	22	85	4	15
	Times are specified to provide special services to senior patients.	0	0	25	96	1	4
	There is a system of priority for seniors in the admission process.	0	0	25	96	1	4
Admission and billing	There is a system of priority and a separate billing counter for seniors.	0	0	26	100	0	0
	The bill is prepared one the previous day.	2	8	21	81	3	12
	There are special privileges for senior patients in the cost of services.	0	0	23	88	3	12

Table 5: The condition of hospitals for signboards

Subscales	Items	Yes		No		Somewhat	
		F	%	F	%	F	%
Signboards	Signboards are put up in all important areas of the hospital, including outpatient department, service areas, corridors and every floor.	23	88	1	4	2	8
	The letter size on signboards is large and bold for better visibility.	21	81	0	0	5	19
	The words and signage are also displayed in the local language.	10	38	16	62	0	0

An "elder-friendly" physical environment has design features that consider the special safety, physical, social and psychological needs of older adults. Table 6 shows the physical environmental features of hospitals in this study.

As the data in table 6 shows, none of the hospitals had special parking space for the elderly. However, more than 80% of the hospitals were near bus routes or subway stations. There was a hospital that had a separate entrance for the elderly patients. Table 6 also shows that 50% of the hospitals had the necessary facilities for senior patients in all important areas of the hospital and 88% of the hospitals had a good lighting. In 100% of the hospitals, the doors to different sections and rooms were wide and there were elevators in almost all the floors. Eighty-five per cent of the hospitals had ramps for wheelchair users and railings for staircases.

Table 6: The condition of hospitals for access to hospitals and physical environment

Subscales	Items	Yes		No		Somewhat	
		F	%	F	%	F	%
Accessibility	There is a special parking space for senior citizen.	0	0	26	100	-----	------
	There is a bus/subway station near hospital.	21	81	4	15	1	4
	There is a special entrance for senior patients.	1	4	25	96	-----	----
Physical environment at the hospital	Telephone booths available in all important areas of hospital—outpatient department, ward and each floor.	5	19	12	46	9	35
	There is a good lighting in the hospital.	23	88	1	4	2	8
	Doors are wide.	25	96	0	0	1	4
	There are elevators available for senior patients at each floor.	20	77	3	12	3	12
	The elevators and corridors are wide and spacious, with enough space to move.	22	85	1	0	3	12
	The interior of the hospital is not complex and access to different sections is easy.	14	54	4	15	8	31
	The floor of the hospital is not slippery.	20	77	2	8	4	15
	There are ramps for wheelchair users and railings for staircases.	22	85	0	0	4	15
	Toilets						
	Toilets are available in all important areas of the hospital, including OPD, ward and every floor.	17	65	2	8	7	27
	There is an alarm in each toilet.	8	31	15	58	3	12
	Toilet floors are not slippery and are clean and dry.	19	73	5	19	2	8
	There are grab rails in toilets.	18	69	6	23	2	8
	There is a western closet in each toilet.	11	42	8	31	7	27
	There is an escort for seniors when they use toilet.	6	23	12	46	8	31
	Toilets have doors that open both ways.	6	23	15	58	5	19

In 92% of the hospitals, there was a toilet in all important areas, and 58% of the hospitals did not have toilet doors that open both ways. In more than a half of the studied hospitals, toilets lack an alarm, but they had grab rails.

Discussion

The summery report on elder-friendly hospitals explains the elements of elder friendliness and hospital care for older adults in a large area. Some services provided in age-friendly hospitals include easy access to hospital, appropriate timing for visits, health services and medical care, training staff, appropriate physical environment, toilets and signboards, geriatric inpatient services, special admission and billing for older adults.[11, 14, 15]

The studied hospitals lacked a system and program for providing counsel, examination, treatment and follow-up services to senior patients. In some of the hospitals, pharmacy gave priority to seniors in collecting drugs and senior patients were provided with explanations about the prescribed drug at pharmacy, but these services were spontaneously provided without any special protocol and guidelines. A study on hospitals in India showed that having a separate OPD, queue, admission counter and billing counter for elderly are essential features of an age-friendly hospital.[15] our study showed that some of the hospitals had facilities for guiding senior patients at different sections. However, none of the hospitals had a system of priority for seniors in any service sections of hospital. Moreover, there were no separate

queue, admission counter and billing counter for senior patients.

Ninety-two per cent of hospitals did not have home health services and care coordinator for senior patients. Only one of the studied hospitals had a geriatric physician, which is a serious shortage for general hospitals in Tehran. Shortage of geriatricians is a common problem in developing countries, which requires special attention from healthcare policymakers.[24]

Our study showed that only one of the hospitals had a multispecialty section for seniors, which operates only two days a week. Therefore, there were no elder-friendly inpatient and outpatient services in the studied hospitals. Most hospitals had instructions for providing preventive services and counseling to target the three common risk factors of smoking, physical inactivity and unhealthy diet. However, there were no protocols for screening elderly patients.

Hospital staff knowledge of natural aging and its characteristics is an important issue in their interaction with elderly patients. Most hospital staffs perceive aging as a disease, and hospitals need to counter this negative attitude. Furthermore, physicians, nurses and staff must be trained in the so-called geriatrics giants, i.e. memory loss, urinary incontinence, depression and falls/immobility.[11] There is a scarcity of healthcare providers with specialized training and experience in geriatrics even in developed countries.[21,23] A study in Hong Kong showed that training staff in communication skills increases their patience during interactions with elderly.[22] Using glass in admission and billing counters and enquiries station of hospital is a physical barrier to communicate staff with the elderly.[22] In Isfahan City seniors had the lowest satisfaction with their interaction with hospital staff.[25] In Ontario, Canada from 115 adult hospitals in geriatric regional program, 55% of hospitals offered training geriatric care, but in most hospitals the education was provided only to a small group of workforce.[23] Most studied hospitals had not trained their physicians, nurses and staff in verbal and non-verbal communication skills with the elderly, four geriatrics giants and in-preventing counseling.

Making physical access easier for elder persons with mobility, vision or hearing impairments is one of the major elements of elder friendly hospitals and healthcare centers.[10] Accessibility of hospitals through public transport is an important issue in elderly care, since senior patients may not be able to visit hospital by private vehicle. Easy access allows seniors to visit frequently hospital without much trouble. The hospitals studied in the present research were in a good condition regarding vicinity to bus and subway stations, but most had neither special parking space nor a separate entrance for seniors. Separate entrance for seniors seems to be unnecessary, but having ramps for wheelchair users and railings for staircases is imperative. In addition, a special parking space for senior patients is as important as disabled parking spaces, since the elderly may not be able to walk long distances to reach hospital. Rashmi studied two hospitals in Bangalore and found that hospital accessibility was one of the most important criteria in senior-friendliness of hospitals.[14] Huang et al. mentioned special parking space near the hospital, separate entrance and vicinity to bus/subway stations as important elements in age-friendly features.[21]

Physical features of hospital such as good lighting,[26] non-slippery floors and wide doors, elevators and corridors are essential to senior-friendliness of a hospital. In the present research, more than 50% of the hospitals had appropriate facilities and good lighting in all-important areas, including OPD, wards and every floor. All the hospitals had wide and spacious doors, elevators and corridors, and there was an elevator available at every floor. About 80% of the hospitals had a simple environment where patients could easily access different sections. Almost all the hospitals had ramps for wheelchair users and railings for staircases. In Ontario being fast-paced, overcrowded, and chaotic and lack orientation and way finding cues, as well as appropriate equipment and furniture are barriers to provide appropriate care in emergency departments.[22] Another study in Ontario described that obsolete physical environments of hospitals as major barriers to deliver appropriate care for older adults.[23]

In the present study, almost all hospitals had signboards put up in important areas. The use of signboards is especially important for elderly patients who are not familiar with the environment of hospital. A research showed that additional use of picture symbols is helpful for visually impaired or illiterate individuals, and volunteers can be used to guide patients to different sections of the hospital.[22]

The main limitation in this research was lack of cooperation of some hospital managers in data collection, which were excluded from the sample. Besides, due to financial limitations, the researchers were not able to examine private hospitals. Geographic extent of the country did not allow us to conduct a nation-wide study, although most of the hospitals of Iran are located in Tehran province.

The present findings can help in formulation of national health policies and programs and guide hospitals in preparing for the growing elderly population. These results can also facilitate the development of senior-friendly hospital initiatives and training age-friendly principles to hospital staff. Moreover, this study provided insights that can be used by health policymakers to evaluate age-friendliness of hospitals in Iran and developing countries, especially in the Middle East, which have the same cultural, structural and population patterns.

Conclusion

Moving toward senior-friendly hospitals and preparing the healthcare system of Iran for the growing elderly population is one of the most important challenges in the short-term. Developing countries are quickly losing the opportunity to develop and implement policies for the challenges posed by aging populations. An important policy of Iran's health system is to initiate an elderly care department in general hospitals. This initiative can respond the current demands of the elderly population of Iran for health, medical and inpatient care and can pave the ground to establish senior-friendly and senior-specific hospitals as well as long-term care centers.

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