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Original Article

Infrastructure Analysis of Long-term Care for Elderly Adults in Iran: A Qualitative Study

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Abstract

Objectives: To analyze the challenges and dimensions of long-term care (LTC) infrastructure in Iran's health system.

Design: Exploratory qualitative content analysis.

Setting(s): Iran's health system.

Participants: Individuals with a minimum of five years of experience in geriatric care, LTC, and health systems, as well as at least a master's degree in health system management.

Outcome Measures: The data on challenges and dimensions related to the LTC infrastructure in Iran's health system were gathered through 15 semi-structured interviews.

Results: The challenges of LTC infrastructure in the health system of Iran were divided into two main themes (physical and human resources) and four sub-themes (lack of skilled and trained human resources, lack of attention to older adults in the training of specialists, the inappropriateness of LTC facilities, and weakness of LTC infrastructure). In addition, the planning and development of human resources, use of human resources, and development of specialized facilities and community-based care were identified as the sub-themes of the components.

Conclusions: The training of specialized human resources, the updating of medical science curricula according to demographic changes, and the formation of multidisciplinary specialized teams to assess care needs and provide services are among the most important measures to provide human resource infrastructure. Moreover, designing LTC facilities at different levels and using the capacity of primary healthcare centers are among the most important measures to provide physical infrastructure that should be prioritized.

Keywords: Human resources, Elderly care, Infrastructure, Long-term care, Iran

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Introduction

The elderly adult population has distinct health needs due to the high prevalence of chronic diseases such as diabetes, heart disease, and stroke, which can lead to functional disabilities. Additionally, conditions that lead to cognitive impairments, such as dementia, are common among elderly adults.[1-3] Reports indicate that between 55% and 98% of elderly adults suffer from two or more chronic diseases.[4] Compared to other age groups, older adults experience a higher incidence of multiple chronic diseases and functional disorders, resulting in a greater reliance on medical and care services relative to their population size.[5,6] Consequently, the increase in life expectancy has led to a larger number of individuals living with chronic physical and mental conditions. These conditions often interfere with daily activities, hinder the ability to perform tasks independently, and diminish the overall quality of life, negatively impacting individuals, their families, their relationships, and society as a whole.[1,7,8]

LTC services encompass a variety of options, ranging from uncoordinated, fragmented, and informal care provided by family and friends to institutional care.[9-11] In essence, LTC includes a broad spectrum of health and social services that can be delivered in various settings,

such as an individual's home, hospice, and daycare centers. A significant proportion—approximately 2%–5% of the adult population worldwide—receives 24-hour care in institutional settings. The types of 24-hour care and the services offered in these facilities vary globally.[12] LTC hospitals or facilities represent the most prevalent form of LTC for elderly adults.[13]

Although today most countries around the world emphasize community-based LTC services, some models prioritize the provision of services in the residences of elderly adults. However, the experiences of developed nations indicate that offering care and medical services through LTC hospitals or facilities is essential for elderly adults with complex medical issues and severe disabilities.[14] In this context, an approach known as institutional LTC has been proposed, which is a key component of LTC in many developed countries.[13] Its primary aim is to maintain the health and well-being of disabled elderly adults. Currently, in European countries, approximately 20% of the population aged 65 and older with functional limitations receives LTC in institutions.[15] In many countries of the world, the number of these facilities is increasing; thus, the number of LTC hospitals in Korea has increased from 639 in 2008 to 1,356 in 2013.[13] In China, several public hospitals have been used to focus on the provision of LTC services.[16]

The existential philosophy of LTC facilities is to accommodate elderly adults who are not only disabled but also have multiple chronic diseases.[17] Institutional LTC includes services provided to people with moderate to severe functional limitations, which are provided permanently or for a long period of time, usually six months or more, in specially designed institutions or in a hospital-like environment where the majority of services are provided.[18] Due to the increase in the burden of chronic non-communicable diseases, prevention services and health care are becoming more important, and it is increasingly recognized that hospitals are not the best institutional facilities for managing such care.[19] In the member countries of the Organization for Economic Cooperation and Development, approximately 70% of LTC users receive care at home or in local communities.[20]

Home care includes services provided by home care providers, both public and private, in a person's home for a long time, as well as services received daily or as a short-term stay in institutions in the form of respite care.[18] The goal of these options is to maintain the independence of elderly adults at home to avoid institutionalization. Several studies have shown that some patients in nursing homes do not need the level of care provided in an institution and can stay at home if there are community-based services.[21] Studies show that the planned infrastructure for the LTC system in Iran is insufficient.[22] Zarea et al reported that the health system lacks a formal structure and programs to provide palliative care services.[23] This study aims to analyze the challenges and dimensions related to LTC infrastructure in Iran's health system.

Methods

This exploratory qualitative content analysis study employed semi-structured interviews to collect data. Participants included current and former senior managers and specialists from the Ministry of Health and Ministry of Welfare, alongside vice-chancellors and academic staff from medical universities. A purposeful sampling method was utilized to select individuals with a minimum of five years of experience in geriatric care, LTC, and health systems, as well as at least a master's degree in health system management. Purposeful sampling is a qualitative research technique that involves selecting individuals who are rich in information pertinent to the research focus. This method is designed to identify and analyze specific groups that can provide profound insights rather than aiming for a random or representative sample. It is typically employed to ensure that the most relevant and informative cases are included in the study. Maximum diversity sampling was used to identify experts, and interviews continued until data saturation was achieved, defined as the point at which no new information emerged. A total of 15 individuals were interviewed, with 10 participating virtually and 5 in person.

Collection Tool

The interview guide for the study was developed based on the research objectives and prior findings. Following three pilot interviews that identified several issues, the research team revised the guide during two discussion sessions. Based on the coding from the initial interviews, the questions in the interview guide were elaborated in greater detail. The applied primary instrument was a semi-structured qualitative interview guide consisting of six questions focused on LTC infrastructure.

Data Collection

Data were collected through semi-structured interviews, ensuring reliable qualitative insights while allowing for flexibility. Each session lasted an average of 60 minutes, ranging from 30 to 90 minutes, and was conducted in a preferred place for participants. Involved experts were selected based on their knowledge in their respective fields. Coordination occurred both virtually and in person. Participants received an information sheet detailing the study, the interview guide, and a consent form a few days prior to the interview, and they had the option to withdraw at any time. At the beginning of each interview, participants were asked to sign the consent form. An interview guide consisting of five questions was designed using a review of the published literature on the topic. The validity of the initial interview guide was assessed by four members of the research team and two healthcare professionals. Additionally, two pilot interviews were conducted, and the researchers also listened to the audio recordings of the pilot interviews and transcribed them verbatim, noting any relevant points that emerged. Finally, the interview guide was

revised based on the feedback obtained from the pilot interviews. An overview of the research was shared, and topics were documented after obtaining consent for recording. Individual interviews were conducted in a calm environment. Recordings were transcribed and analyzed, with notes verifying accuracy while fostering a strong researcher-data relationship.

Data Analysis Methods

Content analysis was employed in this study. Two researchers transcribed the data and became familiar with its content, evaluating it for meaning and identifying codes through comparative analysis. In cases of disagreement, the opinion of a third researcher was also taken into consideration. The data were assessed against predefined categories while exploring the potential for new classifications. MAXQDA 18 software facilitated the coding, theming, and analysis of the extracted data.

Validity and Reliability (Data Evaluation)

In qualitative research, validity and reliability are assessed through acceptability, transferability, similarity, and verifiability. Conducting interviews with experts improved acceptability, while external reviews compared the findings to identify necessary adjustments. For transferability, appropriate individuals were selected, and data collection was conducted concurrently with analysis. Two independent researchers from outside the Iran University of Medical Sciences reviewed the data, confirming its consistency with the research team's results.

Results

This study involved interviews with 15 experts and stakeholders in LTC from the Ministry of Health and medical universities (Table 1). The analysis of these interviews regarding the creation of resources in long-term elderly adult care identified two main themes (i.e., physical and human resources) and four sub-themes (i.e., a shortage of skilled personnel, insufficient emphasis on elderly adults' care in training programs, and inadequacies in care centers). Table 2 outlines the weaknesses in the LTC infrastructure.

Theme 1: Human Resources

Sub-theme 1: Lack of Skilled and Trained Personnel

Due to the lack of a mechanism to train caregivers, many of the interviewees believed that providing services by non-specialized and untrained people was one of the challenges of the current LTC in our country. In this regard, one of the faculty members of the nursing department commented, *"The provided care is not scientific and is not provided by trained and specialized people"*. (P1)

On the other hand, we can point out the failure to define personnel employment standards. In this regard, two interviewees believed that the majority of current caregivers are not qualified to provide care. One of the medical university faculty members indicated that *"Anyone can work in nursing homes because there is no standard for employing caregivers"*. (P6)

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Table 1. Characteristics of the Participants (N = 15)

Qualitative Variables		Frequency	Percent
Gender	Male	10	66.6
	Female	5	33.4
Age (y)	30-40	3	20
	40-50	4	26.6
	50-60	4	26.6
	>60	2	13.3
Educational level	Master	2	13.3
	PhD and MD	13	86.7
Work experience	5-10	3	20
	10-20	4	26.6
	20-30	4	26.6
	>30	2	13.3
Field of study	Health care management	5	33.3
	Health policy	4	26.6
	Gerontology	3	20
	other	3	20
Organization	Ministry of Health, Medical Education	6	40
	Medical universities	4	26.6
	Ministry of Cooperatives, Labor, and Social Welfare	5	33.3

Table 2. Challenges of Resources Generation in LTC

Main Theme	Sub-theme	Final Codes
Human resources	Lack of skilled and trained Human resources	• Provision of services by non-specialized and untrained individuals • Absence of a clear definition of staff employment standards • Inadequacy of training programs for family caregivers
	Lack of attention to the older adults in the training of specialists	• Ignoring the geriatrics in the educational curricula for nurses and physicians • Incompatibility of student admission with the needs of the older adults
Physical resources	The inappropriateness of LTC facilities	• Immaturity of LTC structures • Inadequate classification of LTC facilities • Insufficient coverage of LTC objectives in existing facilities
	Weakness of LTC infrastructure	• Inefficiency of primary health care centres in following up with chronic patients • Unresponsive current facilities and long waiting lines • Concentration of LTC facilities in metropolises

Note. LTC: Long-term care.

caregivers in nursing homes, the managers of the nursing home mentioned, *"There is no instruction for the training of caregivers, but we ourselves put them in a shift with qualified staff for a few days before assigning them a shift so that they can be trained"*. (P12)

The weakness of educational programs for family caregivers is one of the other challenges related to the lack of skilled and trained human resources. The faculty members of the field of geriatrics declared, *"Generally, the elderly adults who receive care at home due to their special problems do not receive the necessary LTC. Especially at home, as families do not have the necessary knowledge to care"*. (P14)

Sub-theme 2: Lack of Attention to Elderly Adults in the Training of Specialists

An important challenge that is raised regarding the neglect of elderly adults in the training of specialist staff is ignoring the elderly adults in the educational curricula of nurses and physicians, so their LTC knowledge and skills are limited. *"In the educational curricula of nurses and physicians, there is no provision regarding the care of elderly adults"*. (P9)

Another challenge that has arisen in recent years around this issue is the incompatibility of student admission with the needs of elderly adults. In this regard, one of the faculty members expressed, *"The training of the workforce should be planned based on the changes in the demographic process created in the country"*. (P13)

On the other hand, one of the managers from the nursing deputy believed that there is enough knowledge about elderly adult care and commented, *"Since we have had a field of geriatrics for all these years, that is, we are training a PhD in geriatrics, well, this means that we have trained experts in this field who can help; there is a good potential in terms of human resources"*. (P5)

Theme 2: Physical Resources

Sub-theme 1: Inappropriateness of Long-term Care Facilities

One of the essential challenges in providing LTC is the lack of development in LTC structures. In this regard, the directors of the aging department believed, *"The country's geriatric settings are immature, and LTC and its subcategories, such as palliative care, home care, and institutional care, do not have a framework"*. (P1)

In other words, no structure is defined for providing LTC services. In this regard, one of the managers of the Ministry of Health stated, *"We haven't considered a structure for it; we don't even have an organized structure for care at home"*. (P4)

One of the managers of the Ministry of Health pointed out the implementation of a pilot project to reduce hospital admissions; this manager indicated, *"We have just started a project in Kashan to separate patients from hospital beds earlier. The setting is being designed with fewer specialized services to free up hospital beds"*. (P1) In fact, services in Iran have also been developed, but there are still many challenges in terms of organizational structures and how services are provided. The second challenge mentioned around this issue was the improper leveling of LTC facilities, which was expressed by some interviewees. In this regard, one of the faculty members of the University of Welfare Sciences believed, *"The problem is that in our country, we have many facilities called old people's homes. However, if a foreigner comes and we want to translate the name of these facilities, such as Nursing Home, Residential Care, Palliative Care, or Hospice Care, I don't know how to translate it. There is no such model abroad, and there are centers classified according to the type of needs of the elderly adults. Then, we say, for example, Elderly Home is something that we made for ourselves, and there is no structure with this description anywhere in the world"*. (P6) One of the faculty members stated, *"In developed countries, LTC facilities are different units, and the only thing I know is that these facilities, which are now serving under the name of LTC, accept the elderly adults heterogeneously and are very dependent on the needs and differences. They don't pay attention to individual differences and consider everyone as a homogeneous stream or age group and provide the same care, and if these differences are not considered, it can become a problem"*. (P11)

Another challenge mentioned around this topic was the lack of covering LTC goals in current facilities. In LTC facilities, we want to accept elderly adults or sick people whose physical problems have not yet fully recovered and need care, which was raised from the point of view of several interviewees as a weakness of these centers. For example, one of the managers of the Nursing Deputy of the Ministry of Health stated that *"Facilities that provide care for the elderly adults at present are mostly care centers rather than LTC"*. (P5)

Sub-theme 2: Weak Long-term Care Infrastructure

The interviewees pointed out that primary healthcare (PHC) centers have recently been required to provide services in the follow-up of chronic patients and elderly adults living in nursing homes. The challenge mentioned in this regard was the ineffectiveness of PHC centers in the follow-up of chronic patients. One of the university professors and health ministry managers commented, *"Many years of follow-up care for several chronic diseases have been integrated into PHC, of which 3 or 4 are related to physical problems such as blood pressure, diabetes, osteoporosis, and falling, and two are associated with mental problems. The follow-up of these patients was screened using the Sib system. If someone is screened positive, they should follow up to receive care. This is something that is in the program, but it is not known in what quality and form it is presented"*. (P15)

"Legally, PHC facilities must provide a series of services, but they usually do not. Comprehensive health centers are obliged to follow up with chronic patients, and part of their work includes home visits and referrals, which are part of their schedule and job description. However, practically,

owing to the operational obstacles seen in providing the service, because level 1 cannot provide service, patients go directly to levels 2 and 3. That is, the place where the patient receives level 2 service incurs an exorbitant cost". (P4)

The non-responsiveness of the current facility and the existence of a long waiting line to receive LTC were among the challenges mentioned by a number of interviewees who believed that the current institutions have limited capacity to provide appropriate care. In this regard, one of the experts expressed, "*Facilities that provide LTC generally have a long queue for them, which means that when a person wants to use the public type, he/she has to go through a long one-year process to be able to use these facilities, which also takes time and is the cause of the problem*". (P17)

The next challenge mentioned in this respect was the concentration of LTC centers in metropolitan cities, which was mentioned by some interviewees. One faculty member commented, "*These centers exist mostly in big cities, and the care they provide is extremely expensive*". (P10)

Dimensions and Components of Resource Creation in Long-Term Elderly Care Within Iran's Health System

The interview findings were organized into two main themes, namely, human and physical resources. Additionally, there were four sub-themes, including human resource planning and development, human resource utilization, and the establishment of specialized and community-based LTC (Table 3).

Theme 1: Human Resources

Sub-theme 1: Planning and Development of Human Resources

Training of specialized human resources and official caregivers were other suggested dimensions that were raised around the issue of human resources. One of the most important resources of any organization is human resources, which have a significant impact on meeting the needs of the elderly adult population. An adequate and competent workforce is important in LTC. Experts and academic staff members indicated, "*We have to train different types, and based on service packages or age groups, the type of care should be different. It is necessary to count the types of services and the processes of providing different services and to train specialists at different levels accordingly*". (P10) Caregivers' training and support are essential. In the LTC system, qualified caregivers have the basic resources to serve elderly adults. Governments should create mechanisms and policies for training and supporting caregivers. In this regard, two experts mentioned, "*Elderly adults may need care because people around them cannot provide that kind of care and have not received the necessary training. Therefore, special caregivers should be trained*". (P3) "*We need LTC skill training for LTC rather than a bureaucratic system. Two-year courses on the skills of caring for elderly adults are enough for caregivers to make the training cost-effective*". (P14)

The inclusion of elderly adult education topics in the curricula of related fields was also emphasized by the interviewees. "*A standard training program for LTC is necessary at each level of care, each level of need, and in each professional field based on the professional competencies of each field. The curriculum must include competency-based curricula and interprofessional education, and education must be expanded from academic centers to PHC and communities. To fulfill these standards in the field of healthy aging, it is necessary to create capacity in educational institutions*". (P7)

Among other issues mentioned was the continuous training of healthcare professionals in the field of elderly adult health. Medical education should include geriatrics as well as opportunities to practice in care settings and communities. One of the faculty members of the University of Welfare Sciences pointed out that, "*Education should be provided on the management of common health conditions in the elderly adults. Healthcare professionals need competencies to care for the elderly adult population*". (P6)

Empowering informal caregivers (family members) to provide care was another dimension reported by some interviewees. If families learn the necessary training

Table 3. Dimensions and Components of the Resource's Generation in LTC

Main Theme	Sub-theme	Final Codes
Human resources	Planning and development of human resources	• Training of specialized human resources • Training of official caregivers • The inclusion of elderly adults' education topics in the curricula of related fields • Continues training of healthcare professionals in the field of elderly adults' health • Empowering informal caregivers (family members) to provide care
	Employing human resources	• Using the capacity of general practitioners in providing services • Forming multi-specialty teams to assess care needs and provide services
Physical resources	Development of specialized LTC facilities	• Designing LTC facilities at different levels • Setting up residential centers • Setting up specialized nursing care centers • Setting up hospice
	Community-based LTC	• Setting up day care centers • Benefiting from the capacity of primary health care centers to provide preventive care and follow-up for chronic patients • Development of LTC at home • Improving the home and community environment for the elderly adult

Note. LTC: Long-term care.

to deal with the issues of elderly adults, there will be less pressure on the country's resources and funds. Considering the important role and extensive coverage of informal care, extensive training focusing on the health needs of family members of elderly adults is necessary. One of the geriatrics experts declared, *"Family members should be enabled to provide basic care"*. (P10)

Sub-theme 2: Employing Human Resources

Using the capacity of general physicians to assess the care needs of elderly adults and provide services was one of the dimensions proposed in relation to the planning of human resources needed for LTC. One of the professors of the university commented, *"The capacity of general physicians can be used to evaluate and determine the required level of care"*. (P3)

One of the interviewees believed that there was no need for specialist physicians in LTC facilities and indicated, *"We do not train specialist physicians to serve in hospices or LTC settings. These settings should be started by a general physician"*. (P2)

One of the mentioned aspects was the establishment of multidisciplinary teams to assess care needs and provide services. In this regard, one of the geriatrics faculty members stated, *"The needs of elderly adults cannot be met only by a group. The health needs of elderly adults are multidisciplinary, which means that taking care of the needs of elderly adults requires the presence of multidisciplinary teams"*. (P9)

"Geriatric specialists should be present in LTC facilities. Therefore, the first recommendation is to manage these facilities with geriatric specialists. There should be someone who can have a holistic view, particularly since they take a lot of medicines and have many problems, and generally, this issue should be handled by geriatric specialists". (P7)

Theme 1: Physical Resources

Sub-theme 1: Specialized Long-term Care Facilities

One of the dimensions proposed around the service delivery structure was designing LTC facilities at different levels. Most of the interviewees emphasized the design of institutions at different levels (e.g., residential care and specialized nursing care). One of the university professors and welfare managers commented, *"LTC should be leveled in institutions. That is someone who only needs social care and has no other medical problems should visit a place that provides only these services. In the long term, we must separate different levels of care, nursing home, hospice, and residential care"*. (P6)

"Facilities providing LTC at different levels and with diverse services must be designed to provide more complex services such as treating chronic diseases". (P9)

The directors of the Ministry of Health emphasized the establishment of hospices (centers providing palliative care) as part of LTC and commented on the difference between hospice and LTC: *"In the regulation that we prepared in the nursing department, we saw hospice among LTC; hospices are centers for patients in the last six months of life"*. (P4)

Sub-theme 2: Community-based Long-term Care

Some of the interviewees referred to "day care centers" and believed that day care centers for elderly adults are needed in the country and will increase the desire of families to care for elderly adults at home. One of the faculty members of geriatric medicine commented, *"The country is culturally different from other countries. The best situation is the establishment of centers that provide services to elderly adults on a short-term or daily basis. First, we move step by step so that it is accepted from the cultural point of view, and then, little by little, we can prevent the occurrence of bigger problems by providing appropriate services and meeting daily needs"*. (P12)

One of the dimensions of providing LTC was using the capacity of PHC centers. In this regard, gerontology faculty members mentioned, *"PHC is our winning card, which happened in the health system and is well formed, and depending on the scope and range of services, they are good structures that can meet our needs. So why not use them?"* (P13)

One of the interviewees of the vice president of treatment believed that it is impossible to provide LTC in PHC centers and indicated that *"PHC centers can play a role in long-term preventive care. Whether it is secondary or tertiary prevention, their goal is prevention, not treatment. However, in long-term cases, the goals of care, treatment, and continuation of the treatment process cannot be provided only in the form of PHC centers. The part related to prevention can be left to PHC centers or the situation where the patient has recovered and is now discharged"*. (P11)

Another proposed aspect of the service delivery structure was the development of LTC at home. Personal preferences play an important role in determining where services are received. In this regard, one of the Ministry's managers stated, *"Care at home is the first level of care and our priority, but LTC facilities are substituted if the patient can't receive care at home"*. (P7)

Therefore, home- and community-based LTC services should be strengthened to improve the quality of life of elderly adults and people with chronic disabilities and the quality of care provided for them. In this respect, one of the researchers in the field of LTC commented, *"In some periods, advanced countries started to institutionalize services and realized that it is not the right thing. In my opinion, people definitely need an institution, and this depends on their needs. Our society should have all these options. It is possible for people who want to be cared for at home and stay in the community, so this model is better, and there is now more focus on this model"*. (P7)

Improving the home and community environment for the elderly adult was another dimension that was suggested in connection with community-based LTC centers. *"In old age, preventive measures, such as installing handrails, can help the elderly a lot. If preventive measures are carried out,*

we will not face exorbitant treatment costs". (P8)

Discussion

The provision of services by non-specialized and untrained individuals, the absence of a clear definition of staff employment standards, and the inadequacy of training programs for family caregivers are significant challenges stemming from the shortage of skilled and trained personnel. Non-specialized and untrained individuals deliver up to 80% of general personal care.[24] The results of the study by Heydari et al indicated that one of the primary obstacles to home care was the shortage of qualified personnel to deliver home care service.[25] The findings of the study conducted by Feng et al in China demonstrated that the shortage of LTC workers is concerning[20]. Additionally, the results of another study performed in Türkiye revealed a shortage of human resources in health and social services. It was found that this challenge is further exacerbated by the unequal distribution of these resources across various regions.[26]

Ignoring geriatrics in the educational curricula for nurses and physicians, along with the incompatibility of student admission with the needs of older adults and chronic patients, were among the identified challenges. One solution in human resource management is to enhance LTC by increasing specialized qualifications and providing job training.[27] The results of the study conducted by Jabari et al indicated that the insufficient training of healthcare providers was one of the significant barriers to delivering effective palliative care[22] The inadequate preparation of health professionals for the care and treatment of the elderly population, the low level of professionalism within the LTC workforce, and the general lack of competence regarding geriatric diseases contribute to the overall low quality of care.[26,28] The shortage of trained professionals and geriatric specialists in LTC is the primary barrier to enhancing the quality and effective integration of medical services with LTC.[20,27] Fadayevatan et al also highlighted the neglect of rehabilitation experts and the shortage of nurses specializing in elderly adult care as significant challenges in LTC.[29] The study performed by Wang and Tsay in Taiwan revealed challenges, including weaknesses in interprofessional cooperation and teamwork abilities in LTC.[27]

The immaturity of LTC structures, the inadequate classification of LTC facilities, and the insufficient coverage of LTC objectives in existing facilities are significant challenges facing the effectiveness of these centers. Numerous studies have demonstrated that the current care systems in less developed countries are poorly designed and inefficient.[30] Services available to elderly adults in Iran are encountering significant challenges, including a shortage of specialized clinics and hospitals tailored to their needs, as well as a lack of centers that offer palliative and end-of-life care.[31-33] One of the challenges of LTC is the lack of appropriate and sufficient nursing homes to meet the needs of elderly adults.[34] The findings of the study conducted by Ghavarskhar et al indicated that the current nursing homes are unable to adequately address the psychological, social, and physical needs of the elderly adults.[35]

The weaknesses of LTC infrastructures include the inefficiency of PHC centers in following up with chronic patients, the unresponsiveness of existing facilities, long waiting times, and the concentration of LTC facilities in metropolises. Furthermore, there are significant gaps in the services offered, the availability of medical equipment, and outpatient waiting times in community-based PHC centers.[20] The limited capacity of healthcare providers results in long waiting times, particularly in public centers. There is a significant shortage of capacity and an uneven distribution of care services.[26] Access to essential LTC services is hindered by inadequate infrastructure in both developed and developing countries, particularly in rural regions. A study by Jeon and Kwon in South Korea revealed that the majority of long-term home care providers are concentrated in urban areas.[28] The results of a study performed in Turkey demonstrated that home care services are primarily concentrated in densely populated urban areas. Private providers also tend to be located in these urban regions, where the demand for services and the ability to pay are greater.[26]

The training of specialized human resources, the training of formal caregivers, the inclusion of elderly adults' education topics in the curricula of related fields, and the in-service training of healthcare professionals in the field of the elderly adults and empowerment of informal caregivers were among the components of the sub-theme for human resource empowerment. The increasing demand for human resources related to LTC shows that elderly adults have to rely on resources outside the family more than in the past to maintain their basic needs, such as home care and daily care.[27] Nursing professionals play a crucial role in providing care for elderly adults, both in LTC facilities and at home within the community. In the near future, other healthcare professionals—including doctors, pharmacists, social workers, physiotherapists, occupational therapists, nutritionists, and psychologists—will also face an increasing demand due to the growing elderly population.[27] In particular, healthcare provided by a professional workforce, such as nurses, should be strengthened. This is essential because the majority of the current workforce consists of personal assistance caregivers, while the beneficiaries often have complex conditions and needs that extend beyond social care.[36] Enhancing the skills and clarifying the responsibilities of personal assistance caregivers are also crucial priorities.[36] Caregivers' competence and skills in LTC are key factors that contribute to the enhancement of care quality.[29] Employees with varying levels of education are essential for providing care.[37] In developed countries, volunteer nurses providing home care services typically undergo training for three to four years. In Iran, nursing education primarily focuses on hospital services. However, with

the shift in disease trends and the movement toward community-based care, it is essential to revise the curriculum for health and treatment education.[25] Informal caregivers have always been the backbone of LTC, and the role of the family is increasingly recognized as a vital resource that should be supported through benefits[38] and complemented by formal professional or paraprofessional care services.[39,40] Therefore, the participation, education, and support of informal caregivers are crucial to ensure that care providers become more knowledgeable and effective. This support can be achieved through a combination of education, incentives, and respite services. Caregivers are more likely to experience health problems and diminished well-being when their caregiving responsibilities exceed their psychological and social resources compared to those who are less burdened.[20,41,42] In many countries, there is a growing emphasis on supporting informal family caregivers to sustain their essential role in providing LTC at home and within the community.[20]

The sub-theme of utilizing human resources also includes leveraging the expertise of general practitioners to assess the care needs of elderly adults, provide services, and form multidisciplinary teams to evaluate care requirements and deliver appropriate services. The initial step in which healthcare plays a crucial role in LTC is determining the eligibility and care levels of beneficiaries.[17] Primary care physicians are expected to play a significant role in delivering medical services to elderly adults in daycare centers and through home nursing.[20,28,43] Based on the findings of Jabbari et al, the family physician and their team could play a central role in coordinating and managing the care of patients nearing the end of life within the current healthcare system.[22] Effective and efficient delivery of comprehensive health services to elderly adults in the evolving LTC environment necessitates the involvement of healthcare professionals.[43] These professionals are crucial in guiding elderly adults to access appropriate health services and LTC.[18, 19] Establishing a team of multidisciplinary specialists, including geriatricians, pharmacists, nutritionists, nurses, social workers, and care managers, is essential for providing LTC[20]. The care manager, who may be a primary care physician, nurse, or social worker, assists patients in navigating care environments and serves as the point of contact for all parties involved[20, 22]. Adhering to the quality standards of LTC services and effectively responding to complex and diverse care needs depend on the inter-professional collaboration and teamwork abilities of multidisciplinary healthcare professionals.[22 ,26-28,44]

The development of specialized LTC centers encompasses various dimensions and components, including the design of facilities at different levels, the establishment of residential centers, and the creation of specialized nursing care and hospice centers. Institutional care plays a crucial role in LTC and should be integrated into the LTC system to ensure that individuals in need receive optimal services.[45] In other countries, diverse care environments for the LTC of elderly adults have been designed and implemented to promote aging in place, enhance the quality of life, and reduce the duration of stays and the incidence of early hospitalization in nursing homes.[35] Nursing homes are intended for individuals who require continuous nursing care and face significant challenges in performing daily activities of living.[46] Palliative care is a specialized form of care that provides medical and psychological support to patients with life-threatening illnesses and those in the final stages of life.[1]

Setting up daily maintenance and rehabilitation centers that leverage the capabilities of PHC facilities to provide preventive care and follow-up for chronic patients, developing LTC at home, and enhancing the home and community environment for older adults are essential components of community-based care centers. Many countries are striving to rebalance services toward high-quality primary and community-based care.[16] Considering the significant role of society and family in managing chronic diseases, health systems worldwide have shifted their focus from hospital-oriented care to community-oriented care over the past two decades.[25] In addition to nursing homes, the LTC sector encompasses community-based services, including day rehabilitation centers, daycare facilities for Alzheimer's patients, home nursing care, home medical services, and home treatment.[47]

The findings of the study conducted by Jeon and Kwon confirmed that the limited role of the primary care system was effective within an otherwise ineffective health system, highlighting the inconsistency between the health system and the LTC system.[28] Despite the fact that home care services are a crucial component of healthcare systems, they have not yet been sufficiently institutionalized as a new care approach within the framework of Iran's health system.[48] Most elderly adults prefer to remain in their own homes, reflecting a general preference for independent living in old age.[49,50] Aging in place not only provides better support for families but also alleviates the burden on the social care system.[10,40,49,51]

Therefore, the development of home-based LTC services, particularly day care services and rehabilitation services, is essential.[52] If home care services can be integrated with community-based primary care, the health status and overall well-being of the elderly adults will improve, leading to a reduction in admissions to acute care units in hospitals and a decreased reliance on institutional care.[43] Empowering individuals to remain in their homes for as long as possible through services grounded in the principles of prevention and rehabilitation—such as ambulatory care prior to inpatient care and short-term care before full-time inpatient care—is achievable.[49]

Limitation Study

The present study presented the opinions of the individual interviews; thus, the findings of this study should not be generalized to other conditions due to methodological issues (a qualitative approach).

Conclusion

Considering the increasing demand for LTC in our country, it is essential to strengthen the infrastructure of the PHC system. This includes integrating preventive services into the network to enhance access for elderly adults to preventive health measures. Additionally, the quantitative and qualitative development of centers that provide care, treatment, and rehabilitation services is crucial. Implementing programs that empower elderly adults is necessary, with a focus on training self-care initiatives and incorporating elderly adults into the educational content and support of family care programs.

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Ethical approval

This study has been approved by the Ethics Committee of Iran University of Medical Sciences (code number: IR.IUMS.REC.1398.736). Informed consent to participate was obtained from all participants.

Conflict of interests

None declared.

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