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Aging populations and perspectives of geriatric medicine in Japan

Hidenori Arai[1,*], Liang-Kung Chen[2,3,4]

[1] National Center for Geriatrics and Gerontology, Obu, Japan;
[2] Center for Geriatrics and Gerontology, Taipei Veterans General Hospital, Taiwan;
[3] Center for Healthy Longevity and Aging Sciences, National Yang Ming Chiao Tung University, Taiwan;
[4] Taipei Municipal Gan-Dau Hospital (managed by Taipei Veterans General Hospital), Taiwan.

Abstract: It is well known that Japan's population is aging, and the number of people older than 75 years is increasing significantly. Since older people, especially old individuals, are often multimorbid and cannot be always successfully treated and cared for by individual organ-specific treatment, it is essential to utilize knowledge of geriatrics when treating such older patients. Therefore, it is indisputable that education on geriatric medicine is extremely important in Japan, which is the country with the largest aging population. However, the number of universities in Japan that offer geriatrics courses is decreasing. This means that many medical students become doctors without learning the essential characteristics of medical care for older patients despite the need for prompt treatment of older patients in clinical practice in Japan, which is a major obstacle to the development of geriatric medicine in Japan. Here, we review the current status of geriatrics in Japan and overseas and consider the future of geriatrics education to provide holistic and cost-effective medical care for older patients and improve their quality of life and well-being.

Keywords: geriatrics, research, education, clinical practice

Introduction

In general, older patients are characterized by multimorbidity, polypharmacy, atypical symptoms, and complications of geriatric syndromes such as frailty, sarcopenia, and dementia. Agism and ethical issues related to end-of-life care also need to be addressed when caring for older patients, especially those who are frail. However, there are very few acute care hospitals in Japan, including university hospitals, that have geriatrics departments; as such, and it is difficult to acknowledge that holistic and appropriate care for older patients is being appropriately provided because most older patients are treated using a traditional disease-based approach. The treatment of older patients with multimorbidity in organ-specific departments is inefficient due to multiple visits to several hospitals and clinics, and it leads to problems related to inappropriate drug administration, such as polypharmacy and prescription cascades, due to a lack of communication among these doctors. In addition, since the focus of care for older patients is still disease-based in most health care settings, preventive measures for frailty or attention to the quality of life and well-being of older patients are not provided in most cases. On the other hand, in geriatrics, along with the diagnosis and treatment of diseases, the diagnosis, prevention, and intervention of frailty and other geriatric syndromes are appropriately provided based on comprehensive geriatric assessment (CGA) and frailty assessment (*1*).

Thus, to promote appropriate medical care in a superaged society, geriatrics should be mandatory in university undergraduate education, and a specified period of training should be required in postgraduate education. However, few medical schools in Japan have geriatrics departments even though the Subcommittee of Aging of the Science Council of Japan issued proposals to mandate the placement of geriatrics departments in university hospitals twice (*2,3*). Currently, it is unlikely that appropriate training in geriatrics is provided in undergraduate or postgraduate education, and there is likely a gap between medical practice and education and training in medical schools in Japan.

What is a geriatrician?

What can a geriatrician do for the care of older patients? A geriatrician is a physician specializing in the care of older patients, from health promotion and health care to long-term and end-of-life care. Specifically, along with the management of multimorbidity, which is a feature of older patients, geriatricians can appropriately manage polypharmacy, which emerges as a related problem, as well as prevent and intervene in age-related frailty, sarcopenia, urinary incontinence, falls, cognitive dysfunction, *etc*., based on appropriate assessments. Geriatricians are also experienced in taking

a team approach and can demonstrate leadership in the multidisciplinary collaboration required in medical care for older patients, as well as in training of health care professionals involved in multidisciplinary collaboration. Therefore, integrated outpatient services, post-acute/subacute care programs, and all-inclusive care programs for older adults have emerged to address the multifaceted requirements of frail older patients. In addition, there is increasing awareness of geriatric co-management in different care settings, such as fragility fracture prevention and surgery. These models have demonstrated clinical and cost-effectiveness, primarily attributed to the active participation of geriatricians (*4,5*).

The expertise of geriatricians in managing multiple complex care needs is essential for health care systems, especially for high-need, high-cost older patients (*6*). Additionally, there is clear evidence of improved clinical outcomes when geriatricians provide care for frail older patients with multiple complex health care needs (*7*). Furthermore, a long-term care insurance system was implemented in Japan in 2000, and the integration of medical care and long-term care is extremely important. Geriatricians can also demonstrate excellent skills in coordinating to fill the gap between medical and long-term care provisions.

Japan has one of the highest life expectancies worldwide, and the demand for geriatric care is increasing; however, the number of medical professionals specializing in geriatrics has not kept pace with this demand. Despite this demographic change, however, there are only approximately 1,800 geriatricians certified by the Japan Geriatrics Society in Japan, which means that only 0.4% of the total physician population comprises board-certified geriatricians. Additionally, it should be noted that not all geriatric specialists have been trained under an appropriate program; as such, we need continuous efforts to develop better geriatrics education and training programs in Japan. This shortage extends to the academic field as well, with only 24 of the 82 universities with medical schools offering training programs in geriatrics in 2010 (*8*); thereafter, the number of geriatric departments in medical schools decreased in Japan. Based on the efforts of the Japan Geriatrics Society, Japan introduced a new geriatric specialist training program aimed at developing specialists across various disciplines through a structured training initiative in 2018 to address the shortage of well-trained geriatricians.

Undergraduate geriatrics education in Japan

In Japan, Kaneko *et al*. surveyed students' satisfaction with geriatrics education and reported that students at universities in "geriatrics departments" were more satisfied with geriatrics education than those without (*9*). On the other hand, a survey by the Education Committee of the Japan Geriatrics Society conducted by Furukawa *et al*. reported that providing geriatrics training in nursing homes and home-care settings is considered important for gaining a deeper understanding of geriatric care and the medical environment (*10*). However, approximately 55% of Japanese medical schools do not provide such training due to a lack of cooperation with local medical institutions and a lack of understanding and support from the medical schools themselves. Many of the medical schools cited a lack of staff and beds for education and training as the causes, revealing the circumstances and factors that make it difficult to implement out-of-hospital training. Many of the medical schools also cited the number of faculty members engaged in geriatrics education, educational facilities for geriatric training, an increase in the number of class hours, improvement in students' motivation, and promotion of regional cooperation for education as the issues to be improved.

To improve quality of geriatrics education, all medical schools try to cover geriatrics-related items in the Model Core Curriculum for Medical Education and the National Medical Examination Criteria for Geriatric Education. Because the role of medical care for older patients is becoming increasingly important in Japan, geriatrics education is essential for medical students and young doctors to provide better medical care for older patients.

Geriatrics education in foreign countries

The Education Committee of the Japan Geriatrics Society conducted an internet survey on geriatrics education in medical schools in foreign countries (*10*). In many countries, the number of staff members responsible for geriatrics education is insufficient, and the number of students who receive geriatrics education is very small. In many of these countries, the number of faculty members and staff and the amount of time required for education have been cited as problems. The importance of geriatrics education has been emphasized in many countries; however, few countries have satisfactory geriatrics education programs, and there is an ongoing struggle to improve geriatrics education in many countries. Compared with cardiology and gastroenterology, which have long histories and many specialists, geriatrics is still a young specialty with an insufficient number of specialists. In this sense, geriatrics has not yet established a sufficient presence in the field of undergraduate education in many countries.

Similar to Japan, in many countries, the problem is that geriatrics education is conducted by faculty members who are not "professionals" in geriatrics. In Japan, the overall number of geriatricians is insufficient, and they are busy with clinical and research duties, which makes it difficult for geriatric specialists or geriatricians to provide satisfactory education. Thus, in many countries, geriatricians do not play a major role in geriatrics education. Therefore, it is urgent to increase

the number of geriatric specialists both qualitatively and quantitatively and to create a system that can fully contribute to undergraduate education.

Geriatrics in Europe and the United States

The average number of medical schools with geriatrics departments or professorships in European countries was reported to be 7.2 in 1999, 6.9 in 2002, and 4.9 in 2006 (*11,12*). Recently, Gurwitz also highlighted the paradoxical decline in geriatric medicine in the United States over the past 35 years, despite its establishment in response to an aging baby boomer population (*13*). The decline in geriatrics is further exacerbated by the negative attitudes of medical students and residents toward older people, as indicated by a study in northern California (*14*).

Given the aging population and the challenges of multimorbid complications, functional disability, dementia, and frailty, there is an urgent need for geriatric specialists. The importance of addressing the decline in the geriatric profession is emphasized, especially in light of the significant decrease in the number of geriatric specialists and the challenges facing the field. In the United States, acute care programs for frail older people are relatively limited, and geriatricians play an important role across diverse medical disciplines, whereas geriatricians operate primarily within acute care hospitals in the United Kingdom (*15*). These differences in health care systems have a significant impact on services provided to frail older people. While geriatricians and geriatric wards play an important role in the care of frail older people in the United Kingdom (*6*), there is an urgent need for a new model of care that can seamlessly incorporate the CGA approach for the majority of older patients admitted to hospitals other than geriatric wards and that has the potential to extend beyond the acute hospital setting. The CGA approach has been used in the United Kingdom for many years. In the last decade, a co-management approach has been developed in the United Kingdom (*16*) and other European countries to address this gap.

Additionally, the European Union of Geriatric Medicine Society (EUGMS) was established in 2001 to develop geriatrics as an independent specialty to care for older people with age-related conditions, to ensure that these services are accessible to all European citizens, to support development of health care services appropriate for an aging society and to promote education and continuing professional development (*17*). In the majority of European countries, geriatrics has been identified as an important specialty for health care of older people. Despite the heterogeneity of postgraduate geriatric curricula in European countries, European societies have succeeded in defining a common core curriculum that includes a minimum list of training requirements for the title of geriatrician (*18*). Despite the established status of geriatrics in Europe, 55% of leading geriatricians perceive that geriatrics is not popular among practitioners (*18*). A recent survey indicated that recruitment in geriatrics is trending positively, with more medical trainees considering geriatrics their first choice of specialty than they did in previous surveys (*19*). An earlier study that aimed to investigate senior medical students' interest in geriatrics and their career aspirations revealed that one-third of them later specialized in geriatrics (*20*). In addition, a study that scrutinized career choices of young physicians in the field of geriatrics revealed that a greater percentage of women than men choose geriatrics and that geriatrics has recently experienced a slight increase in popularity (*21*). Furthermore, the study suggested that early career choice is not a strong predictor of final specialty choice, underscoring the need for flexibility in participation in geriatrics training.

Current status of geriatrics in Asia

In contrast to the United States and European countries, Asian countries and regions are experiencing a markedly accelerated pace of aging. For example, this demographic shift took 118 years in France, 26 years in Japan and 25 years in Taiwan. As a result, the process of transforming health care systems and incorporating geriatric care is an even greater challenge in the Asian region than in Western countries.

In Korea, numerous obstacles hinder the advancement and integration of high-quality geriatric medicine into the health care system, encompassing the requirement for widespread clinical proficiency in older adult care across diverse health care providers and settings, absence of structured training programs, inadequate financial incentives for geriatric care, a substantial proportion of older adults receiving care in acute care hospitals instead of more suitable settings, and a dearth of coordination among medical societies focused on geriatric medicine, thereby impeding effective establishment of geriatric medicine as a subspecialty (*22*). A study conducted in Malaysia examined the current state of geriatrics education for Malaysian medical students and revealed that while some schools have integrated these topics into their curricula, others lack expertise and curriculum inclusion, highlighting need for a nationwide geriatric medical curriculum and further research on addressing teaching barriers (*23*). In Taiwan, specialized geriatrician training started in 2004, adopting a model similar to that of the American Geriatrics Society; however, at present, there are 860 certified geriatricians, accounting for 1.2% of the total physician population, and the number of geriatrics fellows has exhibited a consistent trend, with approximately 20–30 individuals per year, a pattern attributed to uncertainties regarding their roles within the health care system. Nonetheless, it is worth noting that Taiwan has acknowledged the escalating

significance of improving care for older individuals with multifaceted health care needs. Consequently, geriatric medicine has been integrated as a mandatory component of postgraduate year training programs in Taiwan. Moreover, teaching hospitals are now mandated to ensure availability of adequate staffing and health care services for geriatric medicine to fulfill requirements of postgraduate year training and to function as standard services within these institutions. With a population exceeding 200 million older than 65 years, China has established a policy mandating that 90% of general hospitals establish a dedicated geriatrics department by 2030.

The perspective of geriatric medicine

As discussed, the role of geriatric practice is clearly defined in most European countries, where health care systems generally rely on the public sector, either through taxes or universal health insurance. Collaborating with general internists, geriatricians in Europe primarily provide acute hospital care, similar to hospitalists in the United States. In contrast, these roles are less clearly defined in the United States and Asian countries, where geriatricians are actively involved in community medicine and long-term care in addition to hospital and clinic care. Even in European countries, based on opinion leaders' views, geriatrics is not growing in popularity, although students and trainees continue to express interest in specializing in geriatrics. Asian countries face even greater challenges than the United States and European countries in promoting quality care for frail older people. Such transformation must encompass the delivery of integrated, patient-centered care across diverse health care settings.

However, as the country with the largest aging population, Japan is not well prepared to care for older patients. Therefore, geriatricians should take a more active role in acute care settings and provide leadership within health care teams to ensure seamless care delivery, with an emphasis on care plan structure and continuity across different health care settings in Japan. Furthermore, in line with the UN Decade of Healthy Aging resolution, geriatricians should be actively involved in promoting population-level healthy longevity initiatives and should play a pivotal role in facilitating the transition of health care from a reactive to a proactive model, from a disease-centered to a function-centered approach, and from a treatment-driven practice to a prevention-driven approach. In Japan, the primary focus should be on transforming existing health care systems to effectively address the myriad challenges associated with rapid aging. This transformation should encompass the provision of person-centered integrated care across diverse health care settings.

In conclusion, the role of geriatric practice in different health care settings is apparent; therefore, we need to emphasize the need for geriatricians to play an active role in medical care, long-term care, and population-level healthy aging initiatives. Thus, we need to transform health care systems to provide person-centered integrated care and address challenges in promoting quality care for frail older people, which is faced in Japan.

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Address correspondence to:
Hidenori Arai, National Center for Geriatrics and Gerontology, 7-430 Morioka-cho, Obu, Aichi 474-0038, Japan.
E-mail: harai@ncgg.go.jp