Analysis of the Influence of Aging on Medical Nursing Education in Colleges and Universities

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Abstract: At this stage, under the background of the aging of the population, China’s population aging shows the characteristics of being old and not getting old, especially in areas with backward development levels. The characteristics of aging are more prominent. The demand for medical care for the elderly is increasing rapidly. It is urgent to establish elderly hospitals, elderly rehabilitation hospitals, elderly nursing homes and community medical care. It is necessary for medical colleges to train more elderly general practitioners, elderly specialists, rehabilitation doctors, and elderly psychologists. Elderly specialist nurses, etc. The deepening of the aging will have a greater impact on the future medical care education for the elderly in China. This paper first introduces the connotation of population aging and related theories, and analyzes the current situation of population aging and the impact on medical nursing education in colleges and universities. In order to cope with the trend of gradual deepening of aging in China, it is recommended that colleges and universities do a good job in the training of teachers in the system of medical nursing talents, establish a training center for senior medical teachers, increase investment in practical talents, and build multi-level and multi-directional elderly service personnel. Teaching system. Prepare for the pressure of the elderly medical care and health care system in advance, and guide the medical and health care industry to develop smoothly and healthily.

1. Introduction

The aging population in China is severe, and the aging of the population not only aggravates the social burden and increases social security costs. The various social problems caused by social problems have become increasingly prominent, and there is a more urgent need for geriatric medicine and geriatric specialist care[1]. The aging of the population is the result of the development of medical science, the improvement of people's living standards, and the new challenges facing the health care industry. The elderly are a high-risk group of mental and physical diseases, with a high rate of chronic diseases, many types of diseases, and complicated conditions[2]. As an important part of medical college nursing education, geriatric nursing faces the challenge of a huge aging population caused by the aging population. The old-age nursing of medical colleges and universities is the core curriculum of nursing education students. It has a wide range of social needs and practicality[3]. However, from the current situation, the aged nursing profession is a new profession, and many students do not have a high sense of occupational identity for their elderly care, and most of them are reluctant to engage in aged care work. It is believed that engaging in aged care will result in limited space for personal development, low professional achievement and low social status[4]. This paper analyzes the current situation of nursing education in China's aging population, and correctly views the nursing sociology problem brought about by population aging. It can focus on the problems existing in the practice of nursing education in China, and solve the problems, analyze and predict the problems[5]. Estimate the overall development trend of China's nursing education in the future, vigorously carry out the elderly care, and achieve the strategic goal of healthy aging.
2. The concept of population aging and related theories

2.1 Population ageing concept

There are two distinctions between individual and overall population ageing. The population ageing we generally discuss refers to the overall aging of a country. As the name suggests, that is, a country, the number of elderly people is rising, and the proportion of young people is gradually decreasing [6]. This is a relative concept that shows that the age structure of the local population is constantly changing. Along with the rapid development of China's economy, the medical level and material living standards have gradually increased, the probability of recovery from illness treatment has increased, the life expectancy per capita has increased, and the number of elderly people has increased, but this does not mean that the population is aging [7]. The population structure classification criteria (as shown in Table 1), such as a population aged 60 and over in the total population is less than 7%, it belongs to a young population society (see in Table 1); between 7% and 10% is an adult population. Society; more than 10% belong to an aging society.

Table 1 Classification criteria for population age structure

<table>
<thead>
<tr>
<th>Common indicators</th>
<th>Young type</th>
<th>Adult type</th>
<th>Old age</th>
</tr>
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<tbody>
<tr>
<td>Proportion of population aged 0-14</td>
<td>40% or more</td>
<td>30-40%</td>
<td>30% or less</td>
</tr>
<tr>
<td>Proportion of population over 60 years old</td>
<td>Less than 7%</td>
<td>7-10%</td>
<td>10% or more</td>
</tr>
<tr>
<td>Or the proportion of the population over 65 years old</td>
<td>4% or less</td>
<td>4-7%</td>
<td>More than 7%</td>
</tr>
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</table>

2.2 Health demand theory

Grossman believes that everyone has an initial health stock at birth, and as he or she grows up, he or she continues to make healthy investments, and his (or her) health stock is growing accordingly, but people throughout his life, he is constantly consuming health stocks, such as illnesses [8]. Health stocks and health loss have been in a state of elimination. In the young and middle-aged period, the health stock has accumulated and consumed less. As the body ages, the body functions gradually degenerate, and health consumption dominates. Reduce, people need to get more health needs from the outside world. Therefore, the most fundamental reason for people's demand for medical services comes from the need for health [9]. Because health cannot be directly obtained, people can only obtain health needs through factors that affect health, such as health care services. This is the famous theory of health needs. From an economic point of view, the stock of human health is similar to the depreciation in the concept of capital [10]. With age, the depreciation rate becomes higher and higher, and the consumption of human health stocks becomes more and more, which will increase the demand for medical care services.

2.3 Development history of aged nursing education in medical colleges and universities

At present, China's aging degree is higher than the world level, but compared with the world's major developed countries, although China's aging is not too high, China's aging process is the fastest. The level of aging is still higher than in developing countries and is accelerating. China has a large population base, with an elderly population exceeding 100 million, accounting for about one-fifth of the world's total elderly population and 1/2 of Asia's. China's aging began in the mid to late 1960s, and in 2000 it was called the “first year of population aging.” China's aging rate is growing at an average annual rate of 3.3%, which is higher than the world's 2.5% growth rate, which is about 44% higher than that in 2000. The speed and scale of China's population aging is staggering. By 2050, China may enter a deep aging society. The dramatic increase in social aging is also a sharp increase in the demand for aged care. After the 1990s, China's higher nursing education developed rapidly. The aged nursing school was successively listed as a compulsory course by many nursing colleges across the country, but it was only a professional optional course. After 1998, the nursing school for the aged was only a few. The Higher Nursing School is open and has not yet
been popularized throughout the country. Since then, monographs, textbooks, and popular science books on aged care have been published. Various magazines on the theory of aged care and experience summary articles were published one after another, and research on aged care began. So far, a few nursing colleges are brewing to establish an aged nursing profession, and nursing graduate education has also set up a research direction for aged care. In addition, academic exchanges with aged care at home and abroad have been gradually carried out, and some institutions have established long-term research cooperation with foreign nursing peers.

3. Analysis of the Influence of Population Aging on Medical Nursing Education in Colleges and Universities

3.1 Existing problems in aged nursing education in medical colleges and universities

3.1.1 Relative lack of research on aged nursing education

At present, geriatrics and geriatrics are relatively young sciences. With the aging of the aging, the demand for talents in aged care research has increased dramatically, but most of them only focus on biomedicine and pay little attention to the care of the elderly. There is a relatively lack of research on the practice of aged nursing education in medical colleges and universities. More nursing staff are needed to study aged care and apply the research results to practice. In addition, research shows that medical colleges have so far lacked in-depth research on the aged nursing education system. Nurses must play an important role in the care of the elderly through education, advanced practice and policy.

3.1.2 The impact of the rapid increase in the hospitalization rate of the elderly on the nursing education cause

In accordance with the requirements of the “Twelfth Five-Year Plan” for health services, the tertiary hospitals should be supplemented with geriatrics to meet the medical needs of elderly patients with severe illness. In fact, most of the tertiary hospitals in China have too many people seeking medical treatment because of their on-site medical treatment. The supply shortage is very prominent. In order to meet the requirements of the bed turnover rate and other indicators, only patients with acute and severe diseases are treated. For those who have a hard time, they still need rehabilitation patients. Hospitalization is generally no longer allowed. However, in the face of the family's inability to take care of the family, and the lack of community professional care, many family members do everything possible to let the elderly “Lai” in the hospital, causing many large hospitals to “press the bed”.

3.2 Construction of regression model for medical aged nursing education in colleges and universities

3.2.1 Selection and source of data

Dependent variable. From the macroscopic point of view, the impact of population aging on medical nursing education, independent variables. This paper selects the old-age dependency ratio as an indicator to measure the degree of aging of China's population; the degree of education is expressed by the number of years of education per capita.

3.2.2 Construction of quantile regression model

According to the theory of health demand, people's demand for medical services comes from the need for health. The Grossman model starts from the basic utility of human beings and constructs a health demand equation, a model of medical aged care education. The model indicates that the health needs of aging are influenced by personal characteristics such as age structure, education level, income, and other environmental factors (such as medical equipment, medical personnel, environmental pollution, etc.).

For a continuous random variable $y$, the probability that $y$ is less than $y_0$ is $\mu$, as in (1):
\[ \mu = p(y \leq y_\mu) = F(y_\mu) \]  
(1)

\[ p(y \leq y_\mu) \] represents the probability and \( F \) represents the probability function of \( y_\mu \).

If \( \hat{y}_{(r)} \) is used to represent the quantile estimator of \( y_{(r)} \), it can be seen from Equation (2), that \( \sum w_\mu |y_i - \alpha| \) is required to make the absolute value of the weighted dispersion and \( \alpha = \hat{y}_{(\mu)} \) to the minimum.

\[ \sum w_\mu |y_i - \alpha| = - \sum_{i=\alpha} \sum_{i=\alpha} (1 - \mu)(y_i - \alpha) + \sum \mu(y_i - \alpha) \]  
(2)

Based on the variables selected in this paper, the following possible quantile regression models are established:

\[ Q_y(\mu|x) = \beta_0(\mu)x_1 + \beta_1(\mu)x_2 + \beta_2(\mu)x_3 + \beta_3(\mu)x_4 + \beta(\mu)x_4 \]  
(3)

Among them, \( x \) Q1 (\( y \square \)) represents the estimated value of per capita medical geriatric education in different quantile regression models; \( x_1 \) represents the old-age dependency ratio; \( x_2 \) represents the per capita income of urban residents; \( x_3 \) represents the exhaust emissions; \( x_4 \) indicates the number of years of education per person (see in Table 2).

<table>
<thead>
<tr>
<th>( \beta_0 )</th>
<th>( \beta_1 )</th>
<th>( \beta_2 )</th>
<th>( \beta_3 )</th>
<th>( \beta_4 )</th>
<th>( P \land 2 ) Adjustment</th>
</tr>
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<tbody>
<tr>
<td>0.25</td>
<td>-1681.12(0.235)</td>
<td>273.6812(0.413)</td>
<td>0.135(0.189)</td>
<td>0.001(0.201)</td>
<td>135.693(0.448)</td>
</tr>
<tr>
<td>0.4</td>
<td>-1791.37(0.049)</td>
<td>343.956 (0.007)</td>
<td>0.193(0.025)</td>
<td>0.001(0.076)</td>
<td>143.712(0.001)</td>
</tr>
<tr>
<td>0.5</td>
<td>-1802.48(0.037)</td>
<td>361.34(0.005)</td>
<td>0.281(0.041)</td>
<td>0.001(0.058)</td>
<td>146.548(0.0001)</td>
</tr>
<tr>
<td>0.6</td>
<td>-1472.29(0.067)</td>
<td>287.372(0.043)</td>
<td>0.142(0.049)</td>
<td>0.002(0.023)</td>
<td>147.404(0.002)</td>
</tr>
<tr>
<td>0.75</td>
<td>-1558.3(0.072)</td>
<td>279.954(0.025)</td>
<td>0.129(0.028)</td>
<td>0.002(0.021)</td>
<td>138.461(0.002)</td>
</tr>
<tr>
<td>Mean</td>
<td>-1981.49(0.0000)</td>
<td>412.49(0.0000)</td>
<td>0.134(0.003)</td>
<td>0.001(0.0000)</td>
<td>134.258(0.001)</td>
</tr>
</tbody>
</table>

### 3.3 Results and analysis

The empirical analysis shows that population aging has a completely different impact on medical college nursing education. The mechanism of aging affecting medical care is mainly to allocate the tility to the aging population through medical technology, medical insurance and other resources to meet the needs of medical and health care services. However, the improvement of urban aging can significantly increase medical care, and the improvement of rural aging will not increase the level of medical care education, indicating that the medical service demand of rural aging population has not been effectively met. At present, the supply of medical resources in rural areas is limited, and the medical security system is relatively weak. The rural aging population is at a disadvantage in terms of access to medical resources and their own medical consumption capacity. Therefore, it is necessary to strengthen the construction of medical security systems in rural areas in the future, including Financial input, increase the supply of medical and health resources (such as increasing the number of medical institutions, the proportion of medical staff, etc.), while increasing the income of the rural elderly population. Further considering the urban-rural integration, the narrowing of urban and rural medical services, rural aging will It will promote the rapid growth of medical and health expenditures. Therefore, nursing education in medical colleges and universities needs to face up to the needs of rural elderly population medical care services and contribute to the promotion of harmonious social medical care.
4. Nursing education in medical colleges and universities to cope with population aging

4.1 Top-level design response to population aging ladder medical care education planning implementing the collaborative innovation strategy of regional fitness and leisure industry clusters

The Ministry of Education should pay more attention to the role of the education sector in responding to the aging of the population, and more actively play the role of medical nursing education in promoting the health of the elderly. It is recommended that the relevant experts of the university should develop and strengthen the doctoral and postgraduate training for the elderly, such as medical care, nursing, health care, prevention, rehabilitation, and foundation, and build a series of undergraduate and higher-level teachers who are suitable for the establishment of senior-related majors, and establish a senior medical teacher. The training center will develop a series of teaching materials for the elderly, and absorb the continuing education of the first-line elderly clinical specialists and specialist nurses. It will become a teacher of the old-age disease training base, speed up research, increase investment, and increase pilots to meet the needs of an aging society. It should be fully recognized that only the development of higher vocational and secondary vocational schools to participate in the services of the elderly is one-sided and faulty. Those who are responsible for senior professional education, elderly hospitals, nursing homes, rehabilitation centers, and old-age institutions must be professionals with professional knowledge. Medical secondary vocational, higher vocational, and undergraduate courses should also provide comprehensive medical and nursing majors and courses for the elderly, and build a multi-level, multi-directional elderly service compound talent system.

4.2 Medical colleges and universities accelerate the construction of elderly medical nursing education for the people's livelihood

Most of the diseases, treatments, rehabilitation, maintenance, and home care that the elderly need should be in the grassroots institutions. However, the reality is that medical colleges focus on the postgraduate education of geriatric specialists, and cultivate talents for colleges and universities, and there is almost no corresponding practical undergraduate. Specialist education. One of the reasons for the development of malformation is that the evaluation standard of education quality in colleges and universities relies too much on the level of scientific research topics and the quality of papers. The employment of students is regarded as a good standard for the quality of education in colleges and universities, which makes medical colleges not interested in the needs of primary medical institutions. Turning a blind eye to meeting the needs of the underlying people's livelihood care and rehabilitation, this evaluation mechanism should be replaced by a diversified evaluation. The second reason for the development of malformation is that colleges and universities have the need to obtain research funding and scientific research results. It is recommended that education funds account for half of the practical professional construction, balance the will of colleges and universities, and actively develop practical higher-level medical professional education that meets market needs. College students should change their concepts, comply with the requirements of the age of aging development, make full use of the huge potential market of aging industries, and implement their own employment and entrepreneurship plans.

4.3 Gradually build a team education education model for aged nursing professionals

The ideal overall care for geriatrics should be performed by a multidisciplinary team. This team should include general practitioners, senior psychiatrists, elderly dieticians, senior nurses, pharmacists, social workers, rehabilitation workers, and common diseases in elderly patients. Specialized physicians such as cardiovascular and cerebrovascular, neurological, and endocrine, so that elderly patients receive systematic attention to the whole body, and use comprehensive perspectives that focus on the characteristics of geriatric diseases to solve problems, and in prevention, diagnosis, treatment, nursing and rehabilitation. Integrate, keep the elderly and minds at their best, and improve the quality of life of the elderly. This optimized combination service model should compile comprehensive training courses, repeat demonstrations, training, and exercise team
thinking and operational cooperation capabilities.

4.4 Construction medical college nursing resources allocation strategy

From the experience of history, the best hospitals in various places are affiliated hospitals of medical universities. Because they are the integration of industry, teaching and scientific research, they bring together the highest-end talents in the discipline. Therefore, it is recommended that qualified colleges and universities establish or merge an old-age hospital and an aged nursing home. Only those with rich practical experience and scientific research ability can better serve as senior college teachers, and the affiliated teaching practice base can best realize mutual learning and research. Promote, professional teachers regularly go to the elderly hospitals, aged care homes or old-age care institutions to work, to help them grow into technical experts and technical experts as soon as possible in practice. In western developed countries, there are 5 to 7 old-age beds for every 100 elderly people. There are 212 million elderly people in China, only 1.7 million beds. The number of beds for every 100 elderly people is 1.1, which has great development potential. In order to meet the market demand, colleges and universities should first incorporate the establishment of aged care homes and elderly hospitals into the school's construction plan, and strive for investment from the government and various social forces to solve infrastructure and facilities problems. Secondly, the establishment of aged care insurance, the corresponding compensation for the elderly care costs, to alleviate the economic problems of the elderly. Once again, subsidize the management of the elderly nursing homes and the treatment of medical care workers for the first two or three years, and give them a one-way trip. After two or three years, they will realize their own self-financing, so that the elderly medical care and nursing staff can stay. Finally, elderly hospitals and aged care homes have been established in small and medium-sized cities and towns, benefiting most of the elderly who have needs, to achieve old age and old age.

Figure 1 Nursing education in medical colleges and universities to cope with population aging

5. Conclusions

In summary, nursing education plays a very important role in clinical medical education in medical universities. Nursing education is mainly for targeted education and training for nursing students. The aging of the population is an inevitable trend in the development of human society. China's elderly care is of great responsibility. It should not only provide medical care when the elderly are sick, but also provide preventive care when the disease is threatened, and provide health
care when the elderly are healthy. As the aging process increases, so in the future, health care spending will be more focused on nursing expenditures. Empirical evidence from abroad indicates that care spending will be the focus of health spending under aging. For China, in the future, medical colleges and universities should speed up the education of high-quality aged nursing talents, improve the quality of life of the elderly, and achieve the strategic goal of “healthy aging” to better cope with the challenges posed by the aging system to the health care system.

References


