



“Internet Plus” Community Home-Based Elderly Care Services Combining Medicine and Sports

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Abstract. In an era of digital information, the elderly care service industry is also undergoing tremendous changes. The community home-based elderly care combining medicine and sports has improved the health and life quality of elder people. The Internet integrates the elderly care resources of the government, communities, and society and puts them into effective use. Under such circumstances, it is easier for us to take full advantage of medical resources. Based on the existing research results and related theories, the author of this paper takes the combination of medicine and sports under “Internet Plus” as the research perspective and analyzes the current situation of community home-based elderly care combining medicine and sports under “Internet Plus.” The existing problems in this model have been spotted and the development path and directions have been proposed for improving community home-based elderly care combining medicine and sports under “Internet Plus.”

Keywords: Internet Plus · combination of medicine and sports · community home-based elderly care

1 Introduction

The extensive applications and rapid development of the Internet have promoted the innovation of economic and social development models. China put forward the “Internet Plus” action plan in 2015, intending to use the Internet as well as information and communication technology to integrate the Internet with all kinds of industries, including traditional industries, so as to promote the transformation and upgrading of the whole society. Following the proposal of this action plan, more and more Chinese scholars have turned their eyes to the research of “Internet Plus” community elderly care services.

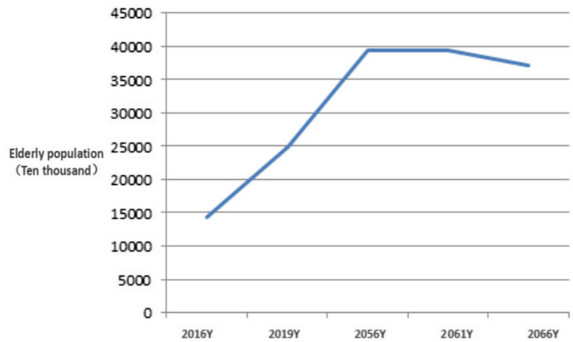


Fig. 1. Changes in the elderly population in China (the original data)

According to the National Bureau of Statistics of China, the elderly population in China has exhibited a sharp increase since 2016 (see Fig. 1). By the end of 2018, the elderly population aged 60 and older has reached 249.49 million in China, accounting for 17.9% of the total population; the elderly population aged 65 and older exceeded 166.58 million, accounting for 11.9% of the general population. What’s more, according to the forecast of the World Health Organization, by 2050, 35% of the population in China will be older than 60, making China one of the most aging countries in the world.

The Internet is an open and sharing network that enables us to interact with each other in real-time. The combination of the Internet and the elderly care services can help us develop new resources, optimize the allocation of existing resources to avoid wasting elderly care resources, so as to make full use of elderly care resources in our country.

2 Overview of “Internet Plus” Home-Based Elderly Care in Communities Combining Medicine and Sports

According to the “Opinions on Comprehensively Promoting Home-based Elderly Care Services” issued by China Working Commission on Ageing (CNWCA) in 2008, home-based elderly care refers to a service form in which the government and social forces, with communities as their agencies, provide daily care, housekeeping services, spiritual comfort, and rehabilitation care of elderly people in the community. Community home-based elderly care falls between the family care by their children and social care by government institutions. Aged men and women live in the community they are familiar with and enjoy professional elderly care services. They become less dependent on their children. In December 2017, the phrase “community home-based elderly care” was selected as one of the most popular topics concerning people’s livelihood in 2017.

As a new model for elderly care in China, the “Internet Plus” home-based elderly care services combining medicine and sports demonstrate the needs of the elderly to improve their quality of life. Through the Internet, elderly care services of online and offline channels are connected to integrate medicine with elderly care resources. Hence, the aged people’s access to elderly care services, medical services, exercise intervention and social care, as well as their participation in social issues, can be better guaranteed so that they can enjoy their remaining years with dignity and vitality.

3 Problems with the “Internet Plus” Home-Based Community Elderly Care Combining Medicine and Sports

Existing elderly care institutions provide some daily care services for the aged population. They are the basis for community home-based care services to initially develop themselves. However, there are still some problems with such institutions.

3.1 Lack of Diversified Contents for Community Home-Based Elderly Care Services

In 2014, the Chinese government issued the “Notification on Carrying out the Pilot Work of Elderly Care Services and Using Information to benefit the People as a Community Service”. Later in 2018, the “Notification on Carrying out the Second Batch of Pilot Demonstration Zones for Smart and Healthy Elderly Care Applications” was issued and two batches of smart elderly care service pilot zones were launched. However, we can see from the number of pilot zones that the “Internet Plus” community home-based elderly care services still benefit a small fraction of the country’s elderly population [1]. Currently, as seen from the situations of some pilot zones, we have established many “Internet Plus” community care service projects, of which handy and housekeeping services such as laundry, cooking, and grocery shopping are the most commonly seen, followed by health care services, with less attention being paid to spiritual comfort and safety management, etc. In terms of medical care, as the elderly gradually age, their chances of getting ill are also rising. Senile diseases, on the other hand, are frequent and acute among the elderly population. Our research showed for many old people, once they become sick, they won’t be able to visit a doctor and get medical treatment in the elderly care service center. Instead, they would choose to go to the small clinics nearby, which do not have enough facilities to treat many senile diseases. Therefore, the diagnosis and treatment of common diseases, simple regular physicals and the purchase of commonly-used drugs have been on top of the elderly’s concerns.

3.2 Lack of Professionals in Community Home-Based Elderly Care Services

To provide elderly care services under the “Internet Plus” model combining medicine and sports, we need professionals in medicine and elderly care. With all-round professional knowledge, they should be able to handle and treat common diseases, frequently-occurring diseases and general emergencies, and conduct telemedicine, health management, exercise intervention, etc. [2]. However, people currently engaged in elderly care services in communities are mostly laid-off and re-employed workers, as well as migrant workers who have never received professional training. So they lack the professional knowledge for elderly care services. Moreover, these practitioners are a bit older than they should be, which means they can only provide basic daily care for elderly people but still cannot satisfy their demands of higher-level. In addition, elderly service practitioners are under high work intensity, with low salary and large staff mobility. On the other hand, related majors are seldom set up in colleges to cultivate such professionals. For those who have such majors, a large gap exists between academic theories and reality. Regardless of medical care or elderly care, the current elderly care team is not professional enough and extremely short of hands.

3.3 Insufficient Funds for Community Home-Based Elderly Care Services

Insufficient resources and funds have become the top priority for they pose restrictions on the system construction for community home-based elderly care services under the “Internet Plus” model combining medicine and sports. At present, the community construction in China is still at a relatively low level, with uneven facilities and services among different regions, as well as under-improved infrastructure and industrial chains. The most basic infrastructure for community home-based elderly care services under the “Internet Plus” model combining medicine and sports are venues, network service platforms, and smart terminal equipment. Currently, many community elderly care service centers or stations can only spare limited space for elderly care services. Barrier-free facilities and smart devices tailored to the elderly’s needs are still underdeveloped. Community home-based elderly care services under the “Internet Plus” model combining medicine and sports involves many industrial fields, including elderly care, medical care, healthcare, information technology, among others. We need these industries and institutions to coordinate and cooperate with each other to form a development pattern with reasonable benefit distribution and mutually beneficial interaction. However, in this respect, we still have much space for development.

4 Principles for Constructing the “Internet Plus” Community Home-Based Elderly Care Model Combining Medicine and Sports

4.1 The Principle of Government Domination

The nature of elderly care service as a kind of quasi-public product determines that governments have inescapable responsibilities and unparalleled advantages in providing these services. The government can create a favorable macro-environment by formulating policies, systems and pension plans, as well as providing financial support and cultivate retirement culture throughout the nation. Therefore, we should stick to the principle of government domination when promoting “Internet Plus” community elderly care services [4]. By establishing an open and transparent mechanism to accelerate the access, supervision and exits of “Internet Plus” elderly care organizations, institutions and products, the government provides guidance for communities, enterprises, social organizations, elderly care facilities, and volunteers to participate in community elderly care services in an orderly manner. Governments should also determine the future direction and quality of community elderly care services by providing financial support and formulating elderly care services of all kinds.

4.2 Marketization

AS communities become more and more common in China, with the acceleration of global population ageing, the demands for elderly care are being more diversified, resulting in weaker traditional elderly care by family members. Social pension has become an inevitable trend of the time. Therefore, except for the dominant role of the government,

we should also give full play to the market. Based on the market transaction way of “whoever benefits should pay.” Elderly people can select whatever elderly care services they need. Enterprises conduct fair competitions with each other, tapping into market potential through the “Internet Plus” to generate profits for themselves. This can encourage more social enterprises to enter the elderly care service industry and promote the all-around, 24/7, three-dimensional and high-quality development of the social pension service industry, so as to improve the elderly care in China with the lowest costs, highest efficiency and quality [5].

4.3 Social Participation

With the community as the platform, social forces should be brought in the elderly care business. People’s public spirits should be reshaped with Chinese filial piety culture, urging enterprises, social organizations and volunteers to shoulder their social responsibilities for elderly care. With the help of the “Internet Plus”, we can transcend industry boundaries, forming synergy among different social pension forces. Only in this way, can we solve the problem of insufficient elderly care services in society.

5 Framework of “Internet Plus” Community Home-Based Elderly Care Model Combining Medicine and Sports

By utilizing the Internet and the Internet of Things (IoT) the “Internet Plus” community home-based elderly care model combining medicine and sports integrates online and offline elderly care service channels, and pools elderly care resources of the government, communities and society with the Internet service framework for community elderly care. As for offline channels, basic supporting facilities for community elderly care services should be improved. With the help of community elderly care information sharing platform, the medical resources from community health centers and hospitals in the proximity, and service resources from rescue agencies, social organizations and market entities should be integrated into the community elderly care services. In the meantime, with the help of this platform, the government can also manage and handle the problems related to community elderly care services, communicating with the service users and collect real-time feedback on elderly care services. Services like medical care, daily care and recreations can also be delivered to the elderly in a timely manner to improve the efficiency and quality of community elderly care services [6]. Delivered through Internet service platforms, the “Internet Plus” community home-based elderly care model combining medicine and sports mainly consists of the following three segments:

5.1 Community Elderly Care Facilities

Elderly care information network, smart devices, medical and healthcare institutions, sports and recreation venues, etc.

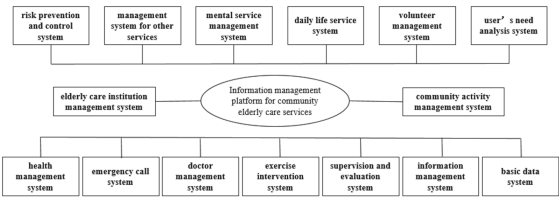


Fig. 2. Framework of “Internet Plus” community home-based elderly care model combining medicine and sports (the original data)

5.2 Information Management Platform for Community Elderly Care Services

This information management platform consists of 15 subsystems (see Fig. 2): basic data system, emergency call system, risk prevention and control system, user’s need analysis system, daily life service system, community activity management system, health management system, exercise intervention system, mental service management system, supervision and evaluation system, elderly care institution management system, doctor management system, volunteer management system, information management system and management system for other services.

With the help of these subsystems, the information on both the demand-side and supply-side of elderly care services can be collected and processed, and the problems can be handled in real-time, creating a bridge between the demand-side and the supply-side. With this platform, government departments can also monitor real-time service conditions, timely handle related problems and prevent relevant risks.

5.3 Offline Comprehensive Services

Offline services can be roughly divided into two categories: services and goods. In the “Internet Plus” community home-based elderly care model combining medicine and sports, without the support of offline service industries and physical stores, it is not possible for us to ensure enough supply for elderly care services. Therefore, better connections between the online platform with offline service providers are required if we want to take full advantage of the “Internet Plus” community home-based elderly care services combining medicine and sports.

6 Development Path for “Internet Plus” Community Home-Based Elderly Care Services Combining Medicine and Sports

By analyzing the problems we are now facing in community home-based elderly care, we proposed the following development path to promote the further development of community home-based elderly care services:

6.1 Integrate Medical and Elderly Care Resources

Community home-based elderly care institutions (or “elderly care institutions” in short) can cooperate with community-level medical institutions such as community health

service centers and clinics to integrate elderly care and medical resources. Under the guidance of the nursing staff from the community-level medical institutions, elderly care institutions can provide daily nursing services for the elderly. Doctors in the community-level medical institutions perform physical examinations in elderly care institutions on a regular basis. Health records would be established for the patients to adjust disease prevention and treatment plans in a timely manner. Special nursing areas should be set up in community-level medical institutions to provide treatment and rehabilitation services for elderly patients who suffer from severe illness, incapacitation and disability. For users of home-based elderly care, once they get sick, they would be transferred to the nearest community-level medical service center for timely treatment and sent back to their elderly care institutions when their conditions have been cured or relieved.

6.2 Take Advantage of the “Internet Plus” Technology

To improve home-based elderly care in communities, we should take full advantage of the instantaneity of information transmission on the Internet and provide services like telemedicine by doctors, “one call at door”, and emergency first aid to provide better lives for the elderly population:

6.2.1 “Call at Door” Service for Elderly People

Elderly care institutions collect information about housekeeping services, supermarkets, restaurants, etc. in the community. Once an elderly person needs a certain service, all they need to do is to dial the number of the community elderly care institution. The institution records information like the caller’s name, address and appointment time, and sends them to the staff’s handheld smart terminals. The persons in charge will then contact the caller to confirm the information for later services.

6.2.2 Establish Electronic Health Records for the Elderly

With a digital health management system, we can provide real-time health management services for the elderly. Electronic health records collected in the community would be connected to the medical appointment system, two-way referral system and telemedicine system to achieve information sharing.

6.2.3 Build an Online Social Platform for the Elderly

After retirement, for elders who leave their original social network, the feeling of loneliness will start to set in. Elderly care institutions should take full advantage of the Internet to provide more recreations on the Internet, such as the online Chinese poker game fight the landlords, Chinese chess, and watching movies. New media platforms like live-streaming platform QQ, and WeChat can be utilized in this process.

6.3 Strengthen Exercise Intervention in Community Home-Based Elderly Care Services

Elderly care institutions under the model combining medicine and sports emphasize exercise intervention services in the community. Compared with other age groups, physical

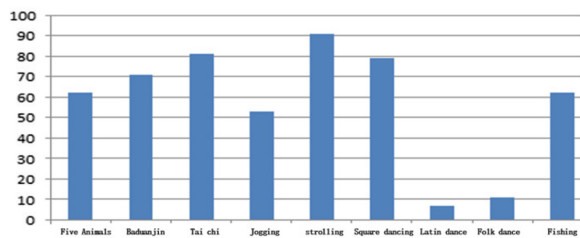


Fig. 3. Popular exercise items with the elderly population (the original data)

exercises taken by the elderly have demonstrated their inclusion of sports into daily lives. Based on the sample survey we conducted, exercise items popular with the elderly population include: body-building exercises like strolling, jogging, Tai chi, Baduanjin qigong, five-animal mimic boxing (Wuqinxi) and recreation programs like the square dancing, Latin dance, folk dance and fishing (see Fig. 3).

The rehabilitation sports for the elderly have been proved helpful in disease treatment and rehabilitation. They are specially designed for senior patients with chronic diseases such as diabetes, hypertension and those with disabilities or in sick beds. Studies have shown that physical exercise has a certain effect in disease prevention among the elderly population. By collecting information about the elderly’s health status, we can come up with some customized exercise prescription, and ultimately contribute relevant information to scientific research concerning senile disease prevention in the field of nationwide fitness.

6.4 Diversify Participants in Community Home-Based Elderly Care Services

IT is a systematic project to construct the “Internet Plus” community home-based elderly care service system. Resources from multiple parties in the fields of medical and elderly care should be integrated into this process, including the personnel, capital and facilities. Communities, elderly care institutions, medical institutions as well as government departments like the Ministry of Civil Affairs and National Health Commission of China are involved in this process, with services covering the daily care, health management, disease treatment, exercise intervention, rehabilitation care, spiritual comfort, among others. This means during the construction of the “Internet Plus” community home-based elderly care system combining medicine and sports, participants should strengthen their sense of duty. They should lead a guiding role in ensuring basic elderly care and medical services, calling for the introduction of market mechanisms in the fields of elderly care and medical service, and urging more private capital and social forces to participate in the construction of the “Internet Plus” community home-based elderly care services combining medicine and sports.

7 Future Directions for “Internet Plus” Community Home-Based Elderly Care Services Combining Medicine and Sports

The combination of medicine and sports emphasizes the applications of sports medicine in the field of nationwide fitness. Sports and exercise take up a large proportion of its consumption structure. The services it provides mainly come from the fields of nationwide fitness and healthcare, with the main objective of promoting physical exercise among the general public. At present, limitations exist when it comes to providing health care services for the elderly with the help of the combination.

7.1 Consumption Structure Leaning Towards Elderly Care Services

Since the “Opinions on Accelerating the Development of Sport Industry and Promoting Sports Consumption” was issued by China’s State Council in 2014, regional governments have also formulated preferential policies to encourage people to spend more money on physical exercise. In 2015, Shenzhen implemented the “Regulations on Promoting City-wide Fitness in Shenzhen Special Economic Zone.” If the balance of an individual’s medical insurance personal account on the previous year has reached 5% of the city’s average salary, 10% of the balance can be used to pay for the person’s sports activities. In the same year, the People’s Government of Shanxi Province issued the “Opinions on Accelerating the Development of Sports Industry and Promoting Sports Consumption” to gradually explore the pilot work of using social security cards (medical insurance cards) to pay for sports expenses. Currently, policies and practices to promote the combination of medicine and sports can help old people to form the consumption concept of “spending money in exchange for a healthy body.” However, when encouraging this type of sports consumption among the elderly, we also ignored its internal relation with elderly care service consumption, that elderly care services can provide support for the sports and exercise services received by the elderly.

7.2 Community Institutions Establish Their Own Elderly Care Management Departments

Shattering the barrier between the sports and medical industry is an important means to promote medicine-sports combination. Certainly, this move is of great value to elevate the scientific levels of sports and exercise for the elderly population. However, the current services this combination provides mainly come from the fields of nationwide fitness and healthcare. In 2017, a symposium on medicine-sports combination was held by the General Administration of Sport of China and the former National Health and Family Planning Commission of China. The National Institute of Sports Medicine and Sports Hospital under the General Administration of Sport of China established two outpatient clinics for “exercise prescription” and “spinal health.” We can see that the community elderly care institutions’ role in the promotion and execution of medicine-sports combination’s intervention does not receive enough attention at this moment.

7.3 Scientific Research Has Extended to the Preventive Treatment of Senile Diseases

The combination of medicine and sports has received great attention from the academic community and relevant government departments. On April 11th, 2017, The China Institute of Sports Science under the General Administration of Sport of China established the Medicine-Sports Combination Promoting and Innovation Research Center. With the theme of “Healthy China”, the Research Center conducts innovative research on the policies, theories and technologies combining medicine and sports. On June 10th, 2017, the “Sports and Healthy China 2030” Summit was held in Beijing Sport University. On August 11th, 2017, China’s General Administration of Sport issued the Guidance to Fitness for All, covering contents that people should know before exercise, such as safety evaluation, athletic ability testing and evaluation, the formulation of personalized exercise prescription, and exercise schemes at different stages, etc.

At present, the focus of medicine-sports combination in China is to elevate the scientific level of nationwide fitness. However, current scientific research on medicine-sports combination only delves into some universal matters. The elderly are a special group with declining physiological functions and susceptibility to various diseases. Using the combination of medicine and sports to intervene with their health requires us to constantly pay close attention to the health needs of the elderly, treating their existing diseases, but more attention should be paid to the preventive treatment of senile diseases.

8 Conclusions

As a kind of social welfare undertaking, the “Internet Plus” community home-based elderly care combining medicine requires multiple government departments to break the rules and work together. They can encourage private enterprises, non-profit organizations and social institutions to actively participate in elderly care and medical services. Based on old people’s needs for elderly care and medical services, with the quality of the elderly nursing personnel as the guarantee, this kind of model introduced the Internet into elderly care. Governments should budget an accurate amount of service funds for elderly care and reasonably plan the funds used for community home-based elderly care during income redistribution, ensuring that special funds should be used for that specific purpose, for example, dedicated to the construction of infrastructures such as home-based elderly care facilities and networks. At the same time, a team of community home-based elderly care volunteers can be established to save expenses. Moreover, communities can also form partnerships with schools and hospitals to provide high-quality elderly care services, so that the elderly can enjoy their remaining lives. When the elderly are happy, our society becomes more harmonious.

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