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Exploration on "1+1+1" Family-Doctor Double Contract Service

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Abstract: *Objective:* To explore"1+1+1"family-doctor double contract service, to let people get real benefits, and to provide the community residents with general medical service from health to health rehabilitation which cover the whole life cycle. *Methods:* Changfeng Community Health Service Center actively explored the "1+1+1" family doctor double contract service, which was to further deepen the service in line with international standards on the basis of family doctor service mode. Through choosing the representative of the neighborhood committee, determining the pilot family, and selecting outstanding family doctor, the contracted services were implemented, the work processes detailed, and quality services provided. *Results*: Through carrying out the 1+1+1 family doctor double signing service work, we improved the level of family doctor diagnosis and health management, promoted degraded diagnosis and treatment, and made the awareness rate of residents' health knowledge higher and meanwhile made it convenient for patients to seek medical treatment, but also improved the rate of health, participation rate of activities, medical compliance and satisfaction of health knowledge among residents. *Conclusion:* The family doctor double contract service pilot work has not only standardized the medical service work of the family doctor team, promoted the hierarchical diagnosis and treatment, strengthened health management, but also been beneficial to the improvement of the whole population medical service level.

Keywords: Family Doctor, 1+1+1 Contract, Health Management

1. Introduction

Family doctor contract services are aimed to maintain the health of community residents, with general practitioners as the core, by providing comprehensive, continuous, and convenient basic medical and health services for residents, including preventive healthcare, diagnosis and treatment referrals for common and frequently occurring diseases, disease rehabilitation, chronic disease management, health management, etc. [1] In 2015, Shanghai launched a pilot program for "1+1+1" family doctor double contract service. In addition to residents signing contracts with one family doctor, they chose one district level hospital and one municipal hospital as their preferred higher-level hospitals for referral. Family doctors can help contracted residents find appropriate specialists, offer priority to appointments and referrals to superior hospitals, and provide convenient services such as long-term prescriptions (The dosage of a long-term prescription shall be for 1-2 months) and extended

prescriptions for chronic diseases (the family doctor can use the same medication that was prescribed by the specialist of the higher level hospital and provide free delivery to the residents' homes through the logistics company).

On March 23, 2017, Shanghai Medical College of Fudan University and Shanghai Putuo District Health Commission jointly established the Changfeng General Practice Clinical Teaching and Training Base of Shanghai Medical College of Fudan University, as well as the first Zhu Shanzhu General Practice Workroom of Shanghai Medical College of Fudan University in Shanghai, to explore a modern community health service model supported by health care, education, and scientific research. This project focused on the capacity-building of general practitioners and explored the implementation of the "1+1+1" family doctor double contract service, aiming to provide the community residents with general medical care, from healthcare to rehabilitation, throughout the entire life cycle.

2. Methods

2.1. Definitions

The family-based "1+1+1" family doctor double contract service has two meanings: the first is to sign a contract with every member of the family; the second is to sign two contracts with the family doctor and an expert from the Zhu Shanzhu medical team.

2.2. Participants and Procedures

The community health service center and Changfeng Street collaborated to choose responsible leaders of neighborhood committee and determine the second neighborhood committee of Changfeng Fourth Village as the pilot neighborhood committee. This neighborhood committee manages a community of over 1,000 residents, including a self-management group for hypertension and diabetes, as well as a representative sample of 10 families (2-4 persons per family, ages 1-100 years, people with diabetes, hypertension, and so on).

More than ten general practitioners from Changfeng Community Health Service Center who had completed standardized training for general practitioners in Shanghai competed for the first polit family doctor by delivering presentations, and one of them was chosen by the Zhu Shanzhu medical team. Meanwhile, the deputy chief physician of the Department of General Practice of Zhongshan Hospital affiliated with Fudan University, as the pilot family doctor team instructor, signed the contract with the community residents along with the family doctor. Additionally, qualified family doctor assistants were hired to assist the doctors in their work. The 100 households in the pilot neighborhood committee have signed contracts with the pilot family doctor team now, and family members can access the family doctor health management service with the help of professionals.

The procedure for double contract service is as follows: education-contract-evaluation-service. The detailed process, content, evaluation index and person in charge are shown in Table 1.

Table 1. *Procedure, content, evaluation index and person in charge of the double contract service.*

Procedure	Content	Evaluation index	Person in charge
Education	Definition, significance and benefits of double contract service; Health education based on family health needs.	Residents' understanding, acceptance, existing problems with double contract service, mastery of health knowledge, etc.	Director of medical department; Leaders of family doctor team; Family doctors; Family doctor assistants.
Contract	Signing contracts with families in person and collecting relevant information of health records.	Number of individual and family contracts, personal and family health records etc.	Family doctors; Family doctor assistants.
Evaluation	Assessments and interventions for families and individuals based on health records.	Intervention of risk factors, improvement of family function, etc.	Family doctors; Family doctor team instructor
Service	General Medical Services and health management services.	Rate of first visits, rate of referrals, number of health lectures, etc.	Family doctors; Family doctor team instructor; Family doctor assistants.

2.3. Details of the Double Contract Service

2.3.1. Mechanism for Assessing Family Health

Family doctors keep track of the health state of family members, analyze the genograms, identify the main problems of the family, evaluate the family function, and create family health guidance plans based on the fundamental information contained in family health records.

Family health records play an important role in the healthcare of residents [2, 3]. Family doctors can thoroughly comprehend the health status of each member of the family by reviewing health records, especially for elderly people with chronic diseases. Family doctors provide medical care services to patients, which include creating personal health logs and recording changes in blood pressure, body temperature, weight, blood glucose levels, and other clinical indicators, so that family members can stay informed about the health status of the elderly and improve the family health management of chronic diseases through family relationships. Also, doctors can accurately diagnose and treat patients by using the health records of family members, ensuring they receive the greatest treatment options. Moreover, family health records are used to collect and store the medical records, physical examination forms, medical cards, treatment records and other information of each member of the family in order to prevent information loss and make

access easier. Additionally, it provides important information regarding disease assessment for family members and serves as a health management database for all family members throughout the entire life cycle.

The genogram is used to illustrate family structure, disease history, genetic relationships between family members, interpersonal interactions within the family, and major family events so that doctors can quickly figure out the critical facts about the family. Also, the genogram can be applied to identify and screen high-risk individuals, promote family lifestyle changes, and improve health education for patients.

2.3.2. Health Education and Consultation

The family doctor team visits the community once a week to measure blood pressure, blood glucose levels, and provide health consulting to the contracted residents with the support of the neighborhood committee. Health lectures are presented in the neighborhood once a month, and the topics are based on the health requirements of residents. Every three months, we organize free clinics and health consulting events with a team of experts in the community square. By providing health education and consulting [4, 5], which can also assist the family in developing healthy habits and fostering a culture of "paying attention to their own health," the awareness of self-care and health knowledge can be increased [6].

2.3.3. Basic Medical and Health Management Services

Through the process of double contract services, community residents can not only obtain the services of contracted family doctors, but also directly benefit from the support of medical specialists from municipal hospitals. Furthermore, it could improve the diagnosis and treatment capabilities of family doctors.

The specialists from Children's Hospital of Fudan University regularly come to our center to instruct family doctors on the standardized diagnosis and treatment of pediatric disease and to provide guidance on the health management of children in contracted families. Family doctors are trained on health management services for contracted families in the center at a set time each week by the deputy chief physicians of Zhongshan Hospital's Department of General Practice so that residents can see and consult with specialists more easily. Under the guidance of specialists, family doctors are able to accurately diagnose and treat arrhythmia patients, especially those with premature ventricular contractions. In addition, family doctors help smokers make appointments to the smoking cessation clinic of the center, which provides smokers advice on how to quit smoking with vivid picture and words, carbon monoxide testing and assessment with the Fagerstrom Test of Nicotine Dependence (FTND). It is recommended that smokers who are heavily dependent on nicotine take medicine to quit smoking, as well as design a personalized smoking cessation strategy and follow-up plan for them.

Family doctors employ all available resources, such as health huts, community health service stations, and chronic disease self-management groups, to deliver smoking cessation instruction to smokers, including diet, exercise, health education, and smoking risk factors. The doctors at smoking cessation clinics don't just rely on medications; they also place a strong emphasis on doctor-patient interaction and trust, which helps smokers be aware of the risks of smoking and the advantages of quitting. It is critical for smokers to make personalized smoking reduction and cessation plan according to their characteristics. The doctors reasonably make the follow-up schedule for the smokers, pay close attention to the smoking quantity and systemic symptoms, alleviate their withdrawal symptoms, and reduce their psychological burden. Finally, it is hoped that smokers in the community would be able to quit smoking effectively with the professional and patient guidance of family doctors and benefit for their lives. The smoking cessation intervention based on 5As is used to help smokers who desire to quit smoking. The 5As are a framework for doctors to ASK and record the smoking status of all smokers, ADVICE all smokers to quit smoking, ASSESS the willingness of smokers to quit, ASSIST with goal-setting and ARRANGE follow-up. Smokers, who use smoking cessation medications (refer to the smoking cessation clinic of Zhongshan Hospital), must set up follow-up appointments. Following the start of smoking cessation, smokers must be followed up on for at least 6 months, with no fewer than 6 visits. The "5R" intervention methods are repeatedly used with smokers who have no intention of quitting to increase their motivation [7].

3. Results and Conclusions

3.1. Enhancing the Abilities and Promoting the Model of Graded Diagnosis and Treatment

Through weekly teaching clinics, municipal hospitals collaborate with community health service centers to enhance the abilities of family doctors in diagnosis, treatment and health management. Residents can take advantage of municipal hospitals' professional team services in the community. The referral model of graded diagnosis and treatment and the initial visit in the community health service center get gradually accustomed to by the residents [8].

3.2. Improving Residents' Awareness of Health Knowledge

We analyzed 200 residents who had signed contracts with Changfeng Community Health Service Center between January 2017 and June 2017. Among them, 100 residents who signed normal contracts with the center were defined as the control group, while 100 residents who signed double contracts were defined as the observation group. There was no statistically significant difference in age, gender, disease, or course between the two groups ($P > 0.05$). Both groups were given a six-month intervention. All of the patients completed the questionnaire created by Zhang Chunfa before and after the intervention [9]. A total of 400 questionnaires were distributed to the residents and 400 residents responded, providing a response rate of 100%. The reliability coefficient of the questionnaire was 0.91. The correct answer rate ≥60%

was defined as "awareness" and the correct answer rate < 60% as "unawareness". Awareness Rate = (number of people aware/total number of people) × 100%.

There was no significant difference in the awareness rate of health knowledge between the two groups before the intervention (P>0.05). After the intervention, the awareness rate of health knowledge in the observation group was higher than that in the control group, and the difference was statistically significant (P<0.05) (Table 2).

Table 2. *Comparison of the awareness rate of health knowledge between the two groups before and after intervention (n = 100).*

Group		Awareness	Unawareness	Awareness Rate (%)	$\chi 2$	P
Before the intervention	Control Group	41	59	41	0.021	0.886
	Observation Group	40	60	40		
After the intervention	Control Group	92	8	92	4.880	0.027
	Observation Group	48	52	48		

3.3. Experts at Higher Level Hospitals Are More Concerned with Communities

Because of the double contract service, experts learnt about the confusion and challenges the family doctor team was experiencing. After interacting with residents, they realized the importance of health guidance and began to focus more on communities [10, 11].

4. Limitations and Recommendation

Although the double contract service has seen considerable progress, there are still some limitations. Residents are used to receiving medical care in a conventional manner, which allows them to seek medical advice from any hospital. Also, some residents believe that staying away from doctors and hospitals will help them avoid getting sick. One of the internal barriers to the promotion of double contract service is the preconceived notions about medical treatment among residents. Therefore, the family doctor team should communicate with the residents more frequently, disseminate the benefits of graded diagnosis and treatment, and seek breakthrough points from highly educated family members.

The awareness of community residents is insufficient. Since the pilot program for double-contract service has just begun, residents are unfamiliar with the contents of the service. To improve the residents' understanding of family doctors, it is necessary to strengthen the propaganda with more contents and formats and develop new methods of health education. Once we have established a solid reputation in the community, we can broaden the communication effect, encourage residents to actively sign contracts, and pay close attention to family health management [12].

The quantity and quality of family doctors are not enough [13]. There is a conflict between the demand for family doctors among residents and the insufficient quantity and quality of family doctors, which has an impact on the promotion and growth of double contract service. We need to further improve talent development and introduction.

The family doctor team is underpaid [14]. There are numerous management affairs in community health service, which is quite complicated and puts a lot of strain on the medical staff. The government should focus on improving their income and career prospects in order to enhance their motivation to work.

Community health policy is incomplete. The issues with the medical staff's scope of practice, medical insurance management, the personnel system, and so on have become increasingly apparent in the process of community health reform [15]. It is hoped that, with government collaboration, the departments concerned will attach importance to improve policies.

In addition to being the foundation and assurance of social health, family health is the basis of physical and emotional well-being, professional success, and happiness. The family-based "1+1+1" family doctor contract is the agreement between the family doctor and the entire family. Once the contract is signed, it's as if the family has a friend who is a doctor. If you are sick, consult with your "friend" first. The double contract service is based on the family doctor contract service under the professional guidance of municipal hospital experts. Experts from municipal hospitals visit communities on a regular basis to guide family doctors in their professional skills and scientific research while also communicating face-to-face with residents, making it easier for residents to get the services of expert teams from municipal hospitals and alleviating the problem of difficulty in seeing a doctor. Family doctors have achieved full coverage of health management for community residents through the double contract service pattern. The service mode has changed from waiting for patients to providing services for residents in the community, effectively strengthening health management and achieving a shift from treatment-oriented to prevention-oriented health protection. The double contract standardizes the medical service of the family doctor team, promotes graded diagnosis and treatment, improves the health management of residents, and contributes to increasing the medical service level of the whole population.

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