

Policy Notes

To Include Dyslipidemia Management into National Basic Public Health Service: from Project Practice to Policy

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As cardiovascular diseases have been increasingly endangering the health and quality of life of Chinese residents, all relevant parties have been actively looking for policies and measures to effectively control the risk factors of the diseases. Hypertension and diabetes have been included in the National Basic Public Health Service Project since 2009; however, as one of the most crucial risk factors for cardio-cerebrovascular diseases, dyslipidemia has not yet been covered by the project due to various reasons. The prevalence of dyslipidemia in China increased rapidly from 18.6% in 2002 to 40.4% in 2012 (1), whereas the management of dyslipidemia has been lagging behind and become the “short board” in the prevention and control of cardio-cerebrovascular diseases.

The International Health Exchange and Cooperation Center (IHECC) of the National Health Commission (NHC) has integrated resources from various parties and has been carrying out the Pilot Project of Dyslipidemia Health Management Services in Chinese Adults since 2013 (2), aiming to explore a pathway to build a model of comprehensive prevention and control for cardio-cerebrovascular diseases at the community health center/township hospital level, as well as to make policy recommendations to include dyslipidemia into the National Basic Public Health Service Project and provide evidence for the national plan of non-communicable diseases (NCDs), ultimately to promote the equalization of basic public health services.

BACKGROUND

A number of evidence-based clinical studies at home and abroad have confirmed that effective control of dyslipidemia can reduce the risk of cardiovascular events such as myocardial infarction, ischemic stroke or death from coronary heart disease. It is the cornerstone to preventing and controlling atherosclerotic cardiovascular diseases (3).

International experiences have also provided

reference and support to integrated prevention and control of risk factors for cardio-cerebrovascular diseases. The UK achieved the mortality target of circulatory diseases five years ahead of schedule in 2004, reducing the mortality rate by 40% from 1995–1997 baseline under the guidance of “National Service Framework for Coronary Heart Disease”. Finland, through the “North Karelia Project” and nationwide promotion, reduced the mortality rate of cardiovascular diseases among people aged 35–64 by 80% from 1972 to 2007 (4).

To actively establish a platform for exchange and cooperation, IHECC hosted an experience sharing and symposium on British cardio-cerebrovascular disease prevention and control in April 2013. Experts from the fields of policymaking, public health, clinical medicine, non-communicable disease management, primary health service, health economics and information management, as well as representatives from non-governmental organizations and related enterprises, attended. Consensus was reached to take the cardio-cerebrovascular diseases and other NCDs as the breakthrough point, and actions should be taken in comprehensive prevention and control; top-level design should be well conducted and experiences should be promptly summarized; most importantly, evidence-based and practice-demonstrated achievements should be transformed into the scientific basis for the support of policies and strategies.

METHODS

A well-designed project was consequently launched in August 2013. The Pilot Project of Dyslipidemia Health Management Services in Chinese Adults (hereinafter referred to as “the project”) was implemented by the following: forming a joint steering committee under the guidance of the NHC and a transdisciplinary expert team; the two-way selecting and investigating of pilots; peer reviewing and expert evaluating of pilot proposals; and baseline study plans.

The project was divided into two phases and lasted

six years. Phase I included several aspects. 1) Through systematic review and data analysis, the theoretical basis and international experiences of dyslipidemia management were sorted and analyzed; the impact of dyslipidemia on cardio-cerebrovascular diseases, as well as the prevalence status and disease burden in adults in China, were analyzed. 2) A technical guideline and service specification for community management of dyslipidemia and comprehensive management of cardio-cerebrovascular diseases were drafted by a multidisciplinary team; a service model at the community level, including a standardized process and operating mechanism, was explored. 3) A knowledge management system (KMS) for the prevention and control of dyslipidemia in Chinese adults was established to ensure that the most needed knowledge (including skills, tools, strategies, policies, best practices, etc.) will reach those most in need, especially for healthcare providers at the community level. 4) Dyslipidemia management and comprehensive management of risk factors for cardio-cerebrovascular diseases were conducted in 3 pilot cities (Beijing City, Hangzhou City, and Shenzhen City) where it was integrated as part of the hypertension and diabetes management. Capacity building was enhanced, and the mechanism of operation and sustainable development at the primary healthcare level was explored in the meanwhile. 5) Policy recommendations for comprehensive prevention and control of dyslipidemia and other cardio-cerebrovascular diseases in Chinese adults were put forward.

The practices in Phase I proved that it was feasible and effective to carry out comprehensive management of dyslipidemia and other cardio-cerebrovascular disease risk factors including hypertension and diabetes at community level, and the Chinese term of which was developed as “San Gao Gong Guan” (high blood pressure, high blood glucose, and high blood lipidemia). Therefore, in April 2016, Phase II of the project continued to be carried out by continuing to follow-up individuals managed in 3 pilot cities and accumulating scientific data and evidences, increasing 3 new pilots (Chengdu City, Qianjiang City in Hubei Province and Shaxian County in Fujian Province) in midwestern China and including rural areas in Phase II to further verify the experiences from the pilots in Phase I, continuing to improve the capacity building at the community/township level, as well as conducting health economics assessments to further provide evidence for the improvement of basic public health service projects.

RATIONALE

Results of the baseline study of the project showed the following. 1) Evidence from studies at home and abroad showed that dyslipidemia management could effectively prevent and control cardio-cerebrovascular diseases. 2) The prevalence of dyslipidemia in Chinese adults significantly increased from 18.6% in 2002 to 40.4% in 2012 (1). As for the disease burden, in 2010, 281,000 people died of dyslipidemia-related NCDs in China, causing 5.268 million person-years of life lost, which was a marked rise since 1990 (5). 3) There was still a big gap between the current situation and the actual demands of dyslipidemia management. The awareness, treatment, and control rates were still not optimistic: only 11.0% of the individuals were aware of their dyslipidemia, compared with 8.5% in rural areas; 3.9% received dyslipidemia treatment; and only 3.5% were able to be controlled. 4) Lifestyle interventions plus drug therapy were important means of dyslipidemia management, not only having significant effects of lowering lipid levels, but also markedly reducing cardiovascular events. Diet intervention and lifestyle improvements were the basic measures for the management of dyslipidemia. 5) On the basis of the standardized management of risk factors for cardiovascular diseases such as hypertension and diabetes in the Basic Public Health Service Project, incorporating dyslipidemia into the integrated management will create a synergistic effect as “1+1+1>3” (2).

FROM PROJECT PRACTICE TO POLICY

Outputs and Results Achieved in the Pilot Cities and Towns Provided Practical Experiences for Policymaking

Implementation of each pilot was distinctive, had remarkable effects, and feasible measures. 1) By embedding the module of dyslipidemia management into the Community Healthcare Service System, Beijing has simplified the clinical pathway of dyslipidemia management through automatic assessment and regular reminders, and reduced repetitive management of community doctors by 68.5% and repetitive work by 40%. 2) Making full use of the advantages of information system, Hangzhou integrated the project into its intelligent community healthcare services, contracted family-doctor services, and promoted policy adjustments ultimately.

3) Through a wide range of publicity including television, newspapers, internet, radio and other media, Shenzhen carried out extensive nutrition education, as well as lifestyle intervention and drug therapy. The control rates of blood lipids, blood pressure, and blood glucose increased significantly. In 4 groups of patients (simple dyslipidemia, dyslipidemia complicated with hypertension, complicated with diabetes, and complicated with hypertension and diabetes), the levels of total cholesterol (TC), triglyceride (TG), and low density lipoprotein cholesterol (LDL-C) were decreased by 0.441–0.589 mmol/L, 0.278–0.418 mmol/L, 0.392–0.470 mmol/L respectively. 4) Three intervention strategies were implemented together in Chengdu, including health education of the general population, training of healthcare practitioners, as well as graded management of patients. The awareness rate increased from 8.0% to 33.7%, the management rate reached 93.80%, and the control rate of blood pressure and blood glucose increased as well. 5) Township hospital was selected as the pilot unit in Qianjiang. Health Information System (HIS) was improved and mobile management system was applied among doctors and patients. There was a significant increase from 2.7% to 30.77% in awareness rate and an average decrease of 0.84 mmol/L in TC, 0.12 mmol/L in TG and 0.72 mmol/L in LDL-C. 6) Capacity building among community/township healthcare practitioners was strengthened in Shaxian. After 6 months of systematic management and intervention, the TC decreased by 1.25 mmol/L and LDL-C by 1.09 mmol/L on average in high-risk groups.

Another output of the project lay in the field of health economics. The results of cost analysis in Qianjiang showed that the cost of integrating dyslipidemia management into non-communicable disease management was 20 CNY. The results in Shenzhen showed that the added cost of managing dyslipidemia in patients with hypertension and/or diabetes would be greatly reduced to 20–30 CNY.

Expert Consensus was Formed Through Exchanges and Publicity on Dyslipidemia Management

Exchanges and publicity were carried out through multiple channels. 1) The influence of the project was expanded through various media promoting, experience sharing seminars, health education, on-site free clinic activities, and so on. 2) A series of scientific symposiums were held, and a proposed draft of service specification for dyslipidemia management was

submitted to the health administration departments. 3) Results and experiences from pilots on dyslipidemia management were introduced on the professional platform at the national level, such as China NCDs Management Conference, Annual Meetings of Chronic Disease Prevention and Control Society of Chinese Preventive Medical Association, and so on. 4) A series of articles on dyslipidemia management were published in the peer-reviewed journals of the Chinese Medical Association to disseminate results and experiences from the project. 5) Several rounds of expert seminars had been conducted to draft proposals of “Service Specification for Co-management of Hypertension, Diabetes, and Dyslipidemia”, as well “Service Specifications for Comprehensive Management of Hypercholesterolemia”. The output was delivered to relevant officials for reference.

The Inclusion of Dyslipidemia Management in Local and National Policies Had Been Continuously Promoted

At the local level: The project had been recognized by relevant parties. In 2014, “Free screening and management of dyslipidemia for residents aged 40 years and above in main urban areas” was ranked first in the top ten health projects in Hangzhou. By embedding the module of dyslipidemia management in the health information systems in communities and towns, the service efficiency has been improved in Beijing, Hangzhou, Chengdu, and Qianjiang. By integrating dyslipidemia management into the Family Doctor Contract Services and relevant incentive systems, the quality of health services had been improved at community/town level.

At the national level: With continuous efforts and appeals from all relevant parties, the co-management of hypertension, diabetes, and dyslipidemia has been gradually incorporated into the national policies: 1) In 2017, the detection of blood lipid indicators was added for the elderly in the National Basic Public Health Service Project. 2) In the same year, the Mid- and Long-Term Plan for the Prevention and Control of NCDs (2017–2025) issued by the State Council clearly included the annual detection rate of blood lipid among residents aged 35 years and above as the main indicators in addition to those of hypertension and diabetes. Moreover, clear goals and plans for the comprehensive management of cardiovascular diseases were set in the plan (6). 3) In the Action of Prevention

and Control of Cardio-Cerebrovascular Diseases in “Healthy China Initiative (2019–2030)” issued by the State Council in 2019, to “promote the co-management of hypertension, diabetes, and dyslipidemia” was clearly proposed to indicate the pathway to realize the comprehensive management of risk factors for cardio-cerebrovascular diseases (7).

COMMENTS

The project commenced in 2013, was innovative in many ways, and promoted the transformation from project practice to policymaking. It set a good example for this kind of projects for evidence-based policy advice.

Innovation in design: 1) The project started early in systematic reviews of the prevalence, disease burden, prevention and treatment, measures and policies of dyslipidemia, cardio-cerebrovascular diseases, and their risk factors from the perspectives of basic medicine, clinical medicine, population surveys, and intervention studies. 2) A set of evidence-based, practical and concise knowledge management system suitable for primary healthcare staff to carry out dyslipidemia management was formed based on medical standards and evidences.

Innovation in management: The project had been organized and implemented under the guidance of the logical framework from the beginning to the end. An overall plan was designed at the top level with mutual support given among multiple sub-projects and dynamic evaluation realized within the project. Management documents such as the constitution of the steering committee, project management manual, and pilot application templates had been formulated, thus standardized management was achieved. Several rounds of expert argumentation meetings, workshops, and field investigation and research had been organized, in which the expert team independently played their roles. A model for evidence-based policy-making projects was built and the process of which was accelerated.

Innovation in publicity and evaluating: Various media including traditional and new ones had been fully optimized, such as television and broadcasting stations, newspapers, subway TVs, mobile mass text-messaging, and applications (apps). Generating or selecting evidence using an evidence-based medicine method and sending timely and accurate information to people in need innovated the pathway of scientific evidence dissemination and publicity.

The health economics evaluation method was introduced to scientifically calculate the per capita cost of dyslipidemia management at community/township level for the first time, which provided an important basis to evaluate the replicability and generalizability of the project.

This project was subject to some limitations: 1) As the project was carried out in 6 pilots with a management period of 6 months to 1 year, due to the short intervention period, the long-term effect of dyslipidemia management on reducing the incidence and death of cardio-cerebrovascular diseases had not been observed yet. 2) The sampling methods of managed populations were not fully consistent as pilots were exploring local management modes and mechanisms based on their local conditions. Therefore, the overall effect of dyslipidemia management at the national level could not be evaluated comprehensively.

Acknowledgements: Steering committee members, the expert team, the leadership of IHECC, and the sponsor.

doi: 10.46234/ccdcw2022.169

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Submitted: April 29, 2022; Accepted: September 02, 2022

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