

Eye health is everyone's responsibility: China's first Western-style eye hospital improves in the prevention of blindness

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Abstract

AIM: To investigate the relationship between China's first Western-style eye hospital development and the prevention of blindness in China and determine the main factor influencing eye health today.

METHODS: Data about eye health, blindness and cataract surgery rate of China from public website of World Health Organization (WHO), ORBIS International, Ministry of Health (MOH) of China, Pubmed center and Historical Archives of Zhongshan Ophthalmic Center (ZOC) were reviewed and analyzed.

RESULTS: ZOC is China's first Western-style eye hospital. In 2012, the ORBIS Flying Eye Hospital has chosen ZOC once again as one of its destinations, 30 years after ORBIS expanded internationally to train eye care professionals and treat underserved patients in developing countries in 1982. During the past 30 years, cataract surgery rate and public awareness of blindness prevention were improved greatly in China, in which ZOC plays a very important role.

CONCLUSION: ZOC, as China's first Western-style eye hospital, has improved in the prevention of blindness. Eye health has become everyone's responsibility.

KEYWORDS: eye health; blindness; cataract surgery rate

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INTRODUCTION

As a developing country, China is estimated to have 6.6 million blind people, with 70% to 80% of them living in generally underserved rural areas. As a result, China has one of the most serious rates of blindness and visual impairment in the world. A lack of public awareness of eye health and an insufficient understanding of the importance of a reliable blindness prevention system may be the real obstacles to accomplishing the goal of VISION 2020 in China. The Zhongshan Ophthalmic Center (ZOC), as China's first and one of its best eye hospitals, has dedicated itself to increasing the public awareness of eye health, organizing training courses and developing the capacities of rural ophthalmologists. The ZOC has not only led the development of Chinese eye care but has also drawn attention from the international ophthalmology community.

MATERIALS AND METHODS

Materials Data about eye health, blindness and cataract surgery rate of China from public website of World Health Organization (WHO), ORBIS International, Ministry of Health (MOH) of China, Pubmed center and Historical Archives of ZOC were included.

Methods All the relative archives and data were carefully reviewed and extracted. The relationship between ZOC development and the prevention of blindness in China was analyzed. The main factor influencing eye health was determined.

RESULTS

The current outlook for eye care is hopeful in China. This year, the ORBIS Flying Eye Hospital (ORBIS International) has chosen Guangzhou (previously known as Canton), China once again as one of its destinations, 30 years after ORBIS expanded internationally to train eye care professionals and treat underserved patients in developing countries in 1982 (Figure 1)^[1]. Over the past 30 years, the quantity and quality of eye care has improved significantly in China (Figure 2), especially at the ZOC of Guangzhou^[2]. As China's earliest (1953) eye hospital^[3], the ZOC has not only led the development of Chinese eye care but has also drawn attention from the international ophthalmology community^[4]. According to a report by the Cataract Surgeries Information

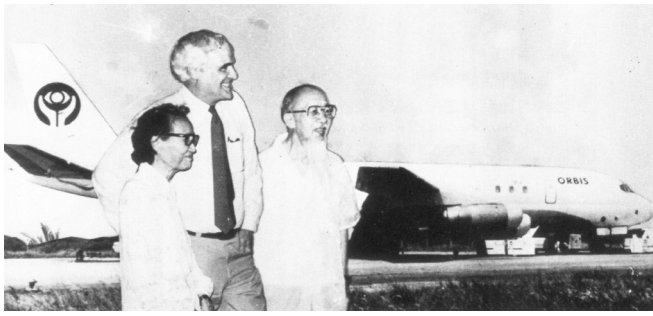


Figure 1 Professors Yao-Zhen Chen (Eugene Chan) (right) and Wen-Shu Mao (Winifred Mao) (left) took a photo with Professor Paton (middle) in front of the ORBIS Flying Eye Hospital during the first ORBIS International visit to Canton, China in 1982.

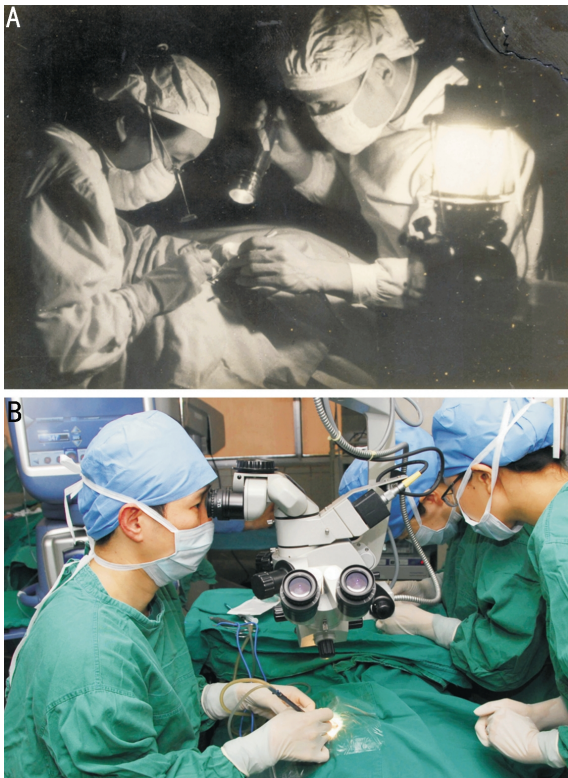


Figure 2 Significant improvement of eye care in China A: Using lanterns to perform ophthalmic surgery for patients in rural areas of China 30 years ago; B: January 2006: the world's first use of torsional phacoemulsification for cataract surgery by Professor Yi-Zhi Liu (left) in the modern operation room of the Zhongshan Ophthalmic Center.

Reporting System (CSIRS), established and implemented by the Ministry of Health (MOH) of China on July 1st, 2009, the ZOC has reported the largest number of cataract surgery cases (11 304 cases in 2010 and 12,880 cases in 2011) of all of the medical institutions in China for two consecutive years. Guangdong (where ZOC is located) is one of the provinces that has reported the largest number of cataract surgery cases (>80 000 cases) to the CSIRS^[5].

According to the World Health Organization, 39 million people worldwide are blind, but 80% of these people suffer needlessly. Their blindness could have been prevented or

treated. As a developing country, China is estimated to have 6.6 million blind people, with 70% to 80% of them living in generally underserved rural areas. As a result, China has one of the most serious rates of blindness and visual impairment in the world^[6]. With the aging of the population, China faces more severe challenges in saving the sight of patients with senile cataracts^[7]. Launched in 1999, VISION 2020's aim is to eliminate the main causes of avoidable blindness by 2020 and to prevent the projected doubling of avoidable vision impairment between 1990 and 2020. For example, the cataract surgical rate (CSR), the number of cataract operations per million people in a given area, is used as a measure of the resources for surgery and the necessary infrastructure. Many developed countries have CSRs in excess of 6000. The global target set by VISION 2020 is 3000. However, in developing countries, the CSR is often under 3000 (e.g., Thailand's and Vietnam's CSRs are 2000, and Laos' CSR is 1000)^[8]. According to CSIRS, China's national CSR was 754 in 2010 and 684 in 2011, which is far from the global target of 3000 set by VISION 2020. In fact, because CSIRS has only existed for less than 3 years, 41 large medical institutes are still unregistered with CSIRS due to late information, omissions, or false positives of submitted information, according to the 2011 report by the MOH^[5]. Therefore, the reported CSR from the current CSIRS may not represent the actual situation of cataract surgery in China. In other words, a low CSR may not be the main obstacle to accomplishing the goal of VISION 2020. Instead, a lack of public awareness of eye health and an insufficient understanding of the importance of a reliable blindness prevention system may be the real obstacles.

DISCUSSION

As a developing country, China has significant regional differences in economic development, the distribution of health resources and the requirements for the level of medical services. These differences are particularly obvious in eye care services^[9]. In rural locations, most people have no access to even the most basic eye care services, including sight tests, whereas many people living in large cities (such as Guangzhou) may not be satisfied with cataract surgery that only restores single-focus vision^[10]. In addition to regional imbalances, the challenges in China also include funding shortages, a shortage of talent, imbalances in distribution, a low capability and a low level of primary ophthalmic services, weak primary eye care, inadequate information systems, a lack of public awareness of blindness prevention and other issues^[11]. In response to these challenges, China's MOH has launched several projects to eliminate cataracts at the national level in the past 20 years, including Sight First China Action (1997~2006), the National Prevention of Blindness Plan (2006~2010), the Vision Restoration Project for Millions of Poor Cataract

Patients (2010~), and the Cataract Surgeries Information Reporting System (CSIRS) (2009~). Thanks to the efforts of the government and the dedication of small, local surgical teams working with organizations such as ORBIS, Sightsavers and the International Eye Foundation, success has been documented in rural areas of China. However, the CSR throughout the country remains quite a low level or cannot be accurately determined due to the lack of a reliable information system^[12].

To improve China's health care reform, the ZOC, as China's first and one of its best eye hospitals, has not only dedicated itself to providing the highest level of eye care services but has also worked to find sustainable solutions to the lack of quality, affordable and accessible eye care services for the rural poor, particularly in western China's remote ethnic minority areas. The ZOC is accomplishing this goal by increasing the public awareness of eye health, organizing training courses and developing the capacities of rural ophthalmologists. With the only State Key Laboratory of Ophthalmology, the ZOC has conducted basic and clinical ophthalmic research to alleviate the burden of blindness in China through preventive measures. From January 1, 2000 to the present, the ZOC has published 996 papers (as documented in PubMed), accounting for 22% (996/4520) of China's ophthalmic research.

From the loss of economic productivity in the poorest communities to the impact on personal dignity and empowerment, eye health is everyone's responsibility. As the year 2020 approaches, the adoption of eye care as a public health priority and collaborations between governments, policy makers, health care providers, the eye health industry and public health workers at every level is vital if the goal of eliminating avoidable blindness is to be realized in China.

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