Compare and contrast the patient journey of someone diagnosed with diabetes in China vs the US (paying special attention to diabetic retinopathy screening)

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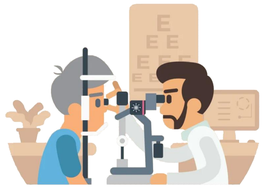
Introduction

Diabetes

Diabetes mellitus is a series of metabolic disorder syndromes caused by absolute or relative insufficient secretion of insulin and decreased sensitivity of target tissue cells to insulin. Long-term hyperglycemia leads to chronic damage and dysfunction of various tissues, especially the eyes, kidneys, heart, blood vessels, and nerves.

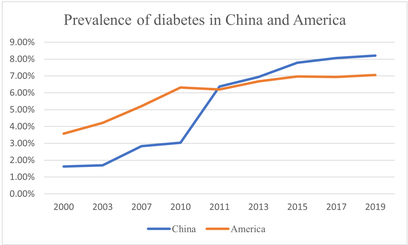
Diabetic Retinopathy

Diabetic retinopathy (DR), as one of the most common and serious chronic microvascular complications of diabetes, is caused by the pathological changes of local retinal microvascular in diabetic patients caused by long-term high glucose.



Patient Journey

Disease Awareness

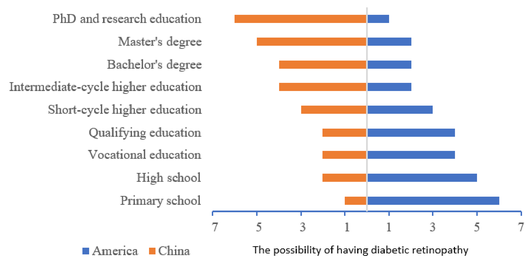


In terms of the prevalence rates of the two countries, before 2011, the prevalence of diabetes in the United States was higher than that in China. However, after 2011, the prevalence of diabetes in China surpassed that of the United States and became the country with the largest number of diabetes.
From the perspective of the growth trend of diabetes, although the prevalence of diabetes in both countries is on the rise, the prevalence of diabetes in China has increased at a particularly fast rate in recent years, far exceeding that in the United States.

Diabetes is currently a public health problem, and it cannot be cured with the current level of medical technology. Only on the basis of controlling blood sugar, the occurrence of complications can be minimized and controlled, so as to maintain a quality life. Both countries are currently taking active measures to prevent diabetes and its complications.

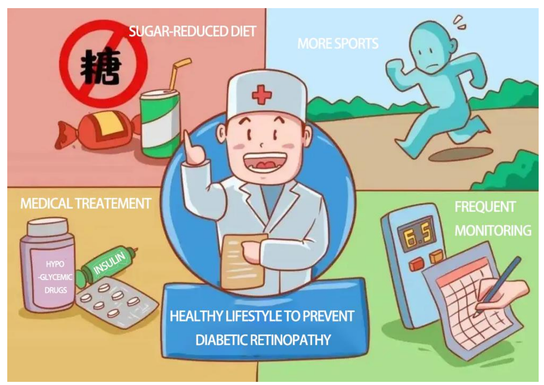
The American Diabetes Association (ADA) | **China Diabetes Prevention and Treatment Professional Committee**

Part 1: Educational Level



In the US, people who are at low educational level are more likely to get the diabetic retinopathy. On the contrary, there are more diabetic retinopathy patients with high education level in China.

Part 2: Education of DR in Community



- ✓ Encourage prediabetic patients to do exercise.
- ✓ Educate diabetic patients via social media.
- ✓ Assess and address the burden pf diabetes and prediabetes.
- ✓ Reduce obesity, improve nutrition, and address food insecurity in communities.
- ✓ Knowledge patients with the most current studies, treatments, and technology in diabetes.
- ✓ Provide professional caring and diabetic knowledge for patients.
- ✓ Regularly organize free physical examination and diabetic screening for the elderly.
- ✓ Family doctors and medical units work together to protect patients from diabetic complications.
- ✓ Give lectures on diabetic prevention knowledge in communities.
- ✓ Enabling telemedicine to control disease progression.
- ✓ Build sport facilities to encourage people to exercise.

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Part 3: Lifestyles

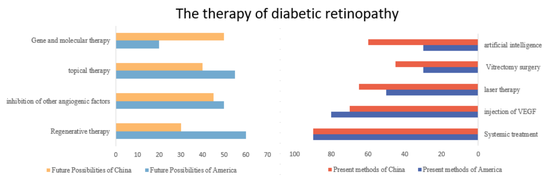
Recommended Diet for Americans with Diabetes

- Build meals around vegetables, beans and whole grains.
- Eat fish at least twice a week.
- Use olive oil instead of butter in preparing food.
- Serve fresh fruit for dessert.

Recommended diet for Chinese with Diabetes

- Use a White Rice Alternative
- Ask for Steamed Ginger Soy Fish Instead of Fried
- Start Your Meal with a Soup
- Eat More Fruit.

Disease Diagnosis



There is little difference between the two countries in the current treatment of DR, but there is a big difference in the emphasis on future technology. The United States focuses on topical treatment, while China focuses on genetic intervention.

DR treatment methods at different stages

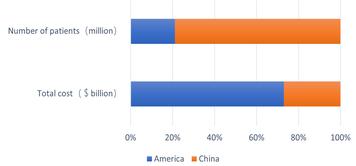
DR development process	China	America
No retinopathy	(1)systemic treatment (2)control of blood sugar, blood pressure, and blood lipids (3)regular fundus screening	(1)optimization of medical services (2)control of blood sugar, blood pressure and blood lipids (3)smoking cessation exercise (4)intraocular pressure and fundus examination
Mild/moderate nonproliferative diabetic retinopathy (NPDR)	Calcium dihydroxybenzenesulfonate drugs, antiplatelet aggregation drugs, anticoagulant drugs and fibrinolytic drugs	(1) careful follow-up with anti-VEGF treatment only for worsening DME (2) intravitreal anti-VEGF injections (3) focal or grid laser photocoagulation with anti-VEGF, if necessary
Severe NPDR or proliferative diabetic retinopathy (PDR)	PRP treatment, vitrectomy	
Diabetic Macular Edema (DME)	Optical Coherence Tomography(OCT)(the core technology is still in the hands of the United States)	
Neovascular Glaucoma (NVG)	Intraocular anti-VEGF injection therapy	

Patient Self-report

Chinese: For lack of propagation of diabetic retinopathy and awareness, I lost my vision . In order to prevent others from following in my footsteps, I would like share my story to all.
American: Thanks to America community center and their propagation of diabetic retinopathy, my vision was saved. I would let more people to get involved in such propagation.

Discussion

Comparison of the number of diabetic patients and total cost in China and America in 2019



In 2019, China ranked first in the world with 116 million confirmed patients, and the United States ranked third with 31 million confirmed patients. Yet the U.S. spends more than twice as much money on diabetes as China does, with less than one-third the number of patients in China.

On further reflection, we believe that American financial investment in the healthcare system in recent years may be one of the key reasons for reversing the high incidence of diabetes caused by its dietary pattern. In addition, Americans are getting more propaganda about diabetic retinopathy in their communities, which plays a good role in prevention.
China is in the process of building more multi-functional medical centers, and the Chinese government has begun to invest in community health care systems.

Our Thinking

The survey shows that there are obvious similarities in the treatment of diabetic retinopathy in China and America. But in fact, the difference in the prevalence of diabetic retinopathy between the two countries lies in the difference in education and mission. In America, preventing diabetes has a profound impact on people's daily lives. Although China is also exploring and reforming to raise awareness of diabetes prevention, it still takes time and effort.
Diabetes, as a disease of the people of the world, reminds all countries that only cooperation and mutual assistance can effectively prevent the disease. At the same time, it also indicates that building a community with a shared future for mankind will be the direction for the joint efforts of all countries in the world.

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