New smartphone-based study to provide healthier food choices for China’s consumers

With a focus on improving community health care in China through affordable, sustainable mobile health (mHealth) technology, the new Beijing-based China Center for mHealth Innovation (CCmHI) is collaborating with China’s Center for Disease Control (China CDC) on a free smartphone tool called FoodSwitch to help consumers make healthier food choices.

“China’s rapid economic and social development means a dramatic increase in the consumption of packaged foods,” said Associate Professor Puhong ZHANG, Acting Director of CCmHI and Program Head at TGI@PUHSC. “Although there are relevant policies and regulations about food labeling in China, the understanding of its usage among people is still inadequate and there is an urgent need for awareness-raising and a more standardized and systematic way to support the monitoring of the packaged food environment in China.”

FoodSwitch was chosen as the first CCmHI study because it delivers on one of CCmHI’s priorities, which is to target the 10 leading causes of premature death and disability in China, while supporting the development and expanded use of mHealth technologies. Steve Mollenkopf, Chief Executive Officer of Qualcomm Incorporated, founding party of CCmHI, said, “FoodSwitch is an excellent example of how large-scale access to advanced communications technologies can provide unprecedented support for public health policy in China.” FoodSwitch has already been popular in Australia, New Zealand and the United Kingdom. By crowd-sourcing food data across tens of thousands of food items, researchers, policy makers and manufacturers will have the information necessary to change the food environment.

Enhancing the capacity to prevent and treat major chronic diseases, many of which are tied to diet, has been identified as a priority of the government. Professor Bing ZHANG, Director of Department of Public Health Nutrition and Nutrition Policy, China CDC, said that China is in a transition period where Chinese people’s diets, nutrition, and health status are changing significantly. “In order to more fully understand this transition, we have initiated a mass cohort study covering 15 provinces. This study, based on the long-term nationwide health and nutrition survey, is the only long-term cohort study of its kind focusing on nutrition and chronic diseases in China, and FoodSwitch mobile solution will be one of the tools to conduct the study. Findings from this study will provide the basis for instituting policy measures to manage chronic diseases in China.”

“It will be the first attempt to investigate and standardize the coordination of packaged food information in China and empower people with access to this information via mobile technology to make their own decisions about what to buy and what to eat,” said Professor ZHANG. “We are excited to carry out this study and hope that the results can inform government policies and bring real impact.”
**RESEARCH**

**Experts from China and Australia Congregate in Beijing to promote SsasS Study**

Recently the China ‘Salt Substitute and Stroke Study’ (SsasS) held its first annual meeting in Beijing. More than 50 participants, including principal investigators from China and Australia, local project investigators, project coordinators and experts from provincial centers for disease control as well as representatives from local health care systems joined the meeting to report on the progress of the study and to exchange their various experiences.

The SsasS study is a five-year, large scale randomized controlled trial (RCT) and aims to find out if the low-sodium salt substitute can reduce the morbidity and mortality of stroke. Study Investigator Professor Bruce Neal, of The George Institute, Australia, and Professor Yangfeng Wu, of TGI@PUHSC, gave welcome remarks to express gratitude to all the team members for their hard work and support over the year.

“During the first year of the project it took the local study teams eight months to complete the screening and recruitment of 21,000 rural patients, which was originally planned to be completed in twelve months. This has been a great accomplishment by the team,” said Prof. Neal.

“Our next step will be more complex, that is, to do the follow up with all the patients. Yet working with such a professional team under support of local partners, I have confidence in our future work and the final result.”

Professor Neal also used the opportunity to discuss the importance of the study, and its implications.

“Ther has been some doubt recently about the effect that salt reduction has on health, and the possible harms. These observational studies have deficiencies, but still arouse the public’s doubt about salt reduction. Our study will meet the challenge of this doubt.”

Professor Wu further explained that reducing salt intake could lower blood pressure and that this had undoubtedly been proved by a great number of observational studies and clinical trials at population level.

“Making conclusions based only on the results from observational studies and claiming that salt reduction is harmful for health or even cause death, is unreliable. We need to adopt the RCT method to eliminate the confounding factors to obtain the best scientific results.”

“We are using this globally recognised method to prove our assumption. We are working as a group to promote population health and believe that a high-quality result will not only benefit the local population, but also have an impact on the health of people across the country, or even around the world.”

In 2014, TGI@PUHSC coordinated with China Medical University, Hebei Center for Diseases Control, Changdi Medical College, Xian Jiaotong University and Ningxia Medical University to launch the study in Liaoning, Hebei, Shanxi, Shaanxi and Ningxia Autonomous Region. The study recruited 21,000 high-risk patients with stroke and hypertension from 600 villages, who were randomized into control and intervention groups at 1:1. Coordinated by the local health and academic institutes, the study provides the patients and their families in the intervention group with salt substitute for free to replace their regular salt for five years.

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**RECENT PUBLICATIONS**


Feng J. He, Yangfeng Wu, Xiang-Xian Feng, Jun Ma, Yuan Ma, Haijun Wang, Jing Zhang, Jianhui Yuan, Ching-Ping Lin, Caryl Nowson, Graham A MacGregor. School based education programme to reduce salt intake in children and their families (School-EduSalt); cluster randomised controlled trial. BMJ 2015;350:h770 doi: 10.1136/bmj.h770

Daily Adult Salt Intake Reaches 15.2 Grams in Beijing: 40% is from Eating Out

A study carried out in urban Beijing and nearby rural areas recently had its result published in Nutrients, showing that adult residents’ average daily salt intake was as high as 15.2 grams. The study demonstrated that 39.5% of salt intake came from eating out, and 90% of the whole intake was from cooking salt.

The harms of high salt consumption and the benefits of salt reduction are becoming more widely known in China, thanks to the efforts of the government and various national and local health institutes. However, the actual amount and sources of individual daily salt intake is still unknown for most people, which has become a major obstacle to encouraging salt reduction.

“24-hour urine collection is considered to be the ‘gold standard’ method for salt intake estimation. However this method is time-consuming and challenging to undertake. Also it needs the support of a chemistry laboratory and cannot identify the sources of the excess salt,” says Associate Professor Puhong ZHANG, the principal investigator from TGI® PUHSC.

“Little emperors” in China help reduce salt intake by a quarter among their families

The school-based education programme to reduce salt intake, also known as School EduSalt study, successfully lowered the population’s salt intake by a quarter with a significant fall in systolic blood pressure in adults. This impressive result has been published in the British Medical Journal (BMJ).

“According to the baseline survey, the average salt intake among the 10-years-old was 7 grams per day, and 11.7 grams per day in their parents, estimated by 24h urinary sodium; while the WHO recommended level is only 5 grams per day for adults,” said Professor Yangfeng WU, co-principal investigator of the study; senior director at TGI® PUHSC. “Considering the big influence children have on their own families in China, we implemented this school-based education programme to evaluate if the kids can help their family to reduce salt intake.”

Funded by the Medical Research Council (MRC) of the United Kingdom, the study was carried out in Changzhi city, Shanxi province, in 2013. 280 students aging around 10 along with 560 adult family members attended and were further randomized at 1:1 into the intervention or control group. Specially designed innovative health curriculums were given to the students from the intervention group who were also encouraged to deliver the key messages including the harmful effects of salt on health, the salt reduction target, recommended level of salt intake, and how to reduce salt consumption to their family members to reduce salt while cooking.

After one-semester time (around 4 months) intervention, the research team detected that the daily salt intake among children who received the education intervention was reduced by 19.3 grams compared with the control group; while for the adults in the intervention group, a reduction of 2.9 grams was observed."

On the other hand, the mean effect on systolic BP was -0.8 mmHg in children and -2.3 mmHg in adults. It was estimated that a reduction of 2.3 mmHg in systolic BP would reduce incidence of strokes by about 9% and heart attacks by about 5%. In China, this could prevent around 153,000 stroke and around 47,000 heart attack deaths per year.

“Universal primary education is a common goal in most national education policies, therefore this novel public health strategy is possible to bring greater impact in preventing hypertension-related diseases compared with the traditional way,” said Professor Graham MacGregor, co-principal investigator of the study and Chairman of World Action On Salt and Health (WASH). He pointed out the study’s major public health implications: “Children are likely to set habits and attitudes that will persist throughout adulthood. And as a wide range of population from children to all of their family members were all engaged, it is likely to achieve a large impact.”

Study principal investigator Dr Fengjun HE from Queen Mary University in London spoke highly of the result, saying that the findings suggest that the WHO’s target of 30% reduction in salt intake by 2025 could be achieved in China and result in a major reduction in CVD morbidity and mortality if this cost-effective education programme is implemented nationwide.
GLOBAL SNAPSHOTs

Over 2 million preventable deaths from gaps in kidney failure treatment

The George Institute recently had research published in The Lancet showing that each year over 2.5 million people receive renal replacement therapy (RRT; dialysis or kidney transplant), yet twice the amount of patients needed this life-saving treatment, and more than two million people globally die unnecessarily because they cannot access treatment for kidney failure.

By 2030 the number of people receiving treatment is predicted to double to about 5.5 million, with the most growth of 968,000 to 2,162,000 in Asia, creating an urgent need for affordable dialysis (currently US$20,000 – $100,000 per person per year) and population-wide prevention strategies for kidney disease.

Load author, Professor Vlad Perkovic of The George Institute and The University of Sydney, said the findings present a grim picture of the prevalence of kidney failure that is worse than previously thought. He called for urgent action to find ways to make dialysis more affordable, and to implement more preventative measures so fewer people develop kidney failure in the first place.

Preventing child road deaths in Asia

Road injury in children is a major global issue, particularly in developing countries. Led by Associate Professor Lisa Keay, researchers at the George Institute have recently completed work for the World Health Organisation on safety of motorcycles in low and middle income countries. The results have shown that motorcycle helmets are an effective means of reducing the risk, yet wearing rates remain low in countries like China and India, and helmet quality remains a substantial challenge. This is particularly an issue for children, as standard helmets are not commonly available for children and many parts of the region.

MOU signed with Chinese College of Cardiovascular Physicians (CCCP)

The George Institute has signed a Memorandum of Understanding (MOU) with the CCCP with the purpose of establishing and promoting research training programs for qualified scientists from China and providing them with mentored, hands-on clinical research training at TGI. This MOU provides such scientists with an opportunity for world class training in clinical research methods and consequently improve clinical research capability in cardiovascular disease prevention and management in China.

SOCIAL EVENTS:

2015 World Hypertension Day – Have your BP measured and eat less salt

Hypertension is a leading risk factor associated with life threatening diseases such as stroke, heart attack and kidney disease. In China, 270 million people suffer from hypertension, with excessive salt consumption being directly linked to these numbers. However, many people are unaware of this health problem.

To help address this problem, TGI@PUHSC hosted an event in the lobby of its office building on 2015 World Hypertension Day to increase awareness of hypertension by measuring people’s blood pressure. Event volunteers also distributed a low-sodium salt substitute in a specially-designed amount-controlled container to call for a less salty diet.

A father and his child taking a scooter in China

Participants having their blood pressure measured
Mixed Methods Workshop

A 2-day workshop about mixed methods research were given by Professor John W. Creswell from University of Nebraska-Lincoln and Dr. Michael D. Fetters from University of Michigan to TGI@PUHSC researchers. The workshop included an introduction to mixed methods, short course on qualitative research, steps in designing a mixed methods study, advanced procedures in mixed methods research and publishing a mixed method study in international journals.

Professor Linong Ji in front of the ORBIT poster at 2015 ADA

2015 American Diabetes Association (ADA) Scientific Sessions

The ORBIT study (Observational Registry for Basal Insulin Treatment) was selected for the poster presentation at the ADA 75th Scientific Sessions, June 5-9, 2015, in Boston, Massachusetts. This study was led by Professor Linong Ji, Chief Scientist at TGI@PUHSC and designed and conducted by Associate Professor Puhong Zhang, Head of Diabetes Program at TGI@PUHSC and his team. The study recruited nearly 20,000 type 2 diabetes patients from 209 hospitals across China and finished the 6-month follow-up. Its result confirmed the utility and safety of basal insulin in real world clinical treatment in type 2 diabetes. It also revealed challenges facing clinical application such as late initiation of basal insulin and insufficient dose titration were still affecting the achievement of optimal blood sugar control in diabetics.

2015 PKU Diabetes Forum

Professor Bruce Neal, Senior Director of Food Policy Division at TGI and Professor Anushka Patel, Chief Scientist at TGI were both invited to the 2015 Peking University Diabetes Forum and brought their studies on “prevention and treatment for diabetic kidney disease” and “change in BP treatment guidelines for diabetic patients should not ignore evidence” respectively.
FELLOWSHIP AND INTERNSHIP OPPORTUNITIES

Interview with Jing Zhang

Zhang Jing is a research fellow and project manager at TGI@PUHSC. He joined this big family in April, 2011. What does he think about research work? Please check below the Q & A with him.

What is your job and what does it involve?

I am a research fellow and project manager at The George Institute for Global Health at Peking University Health Science Center and in charge of project implementation and management, and paper writing.

What is your professional background?

Epidemiology and health statistics

What attracted you to working at The George Institute?

It is the good atmosphere for doing research, friendly environment and the institute’s inspiring values that attract me most.

What inspires you in the work you do and why?

I am inspired by the unique innovation that is needed in research work which can truly benefit the whole population and improve their health.

What is your current research focus OR what are you currently working on?

My research focuses on the prevention and control of non-communicable diseases such as stroke and hypertension using mHealth and other innovative approaches. Currently I’m in charge of the implementation and management of 2 projects: aims to determine the incidence of major complications among adult individuals with fracture within 30 days post-hospital admission, and RECOVER Study focuses on improving the rehabilitation for disabled stroke patients in rural China.

What are examples of your recent highlights/successes?

There’s one example that I would like to mention the most-the School-based education programme to reduce salt intake in children and their families, also known as School EduSalt project. The main result of this study will be soon published in British Medical Journal. I was fully involved in the project from the very beginning to the end. Under the instruction of the two PIs from China and the UK, I took part in the design and implementation of the whole study, as well as quality control. It was very exciting that the study achieved great and impressive results, which to me was the biggest success and compliment. What impact will your work have on health?

I believe that our work can bring real impact to human beings. Through intervention related to salt reduction, it is possible to make people build a habit of having low salt diet to reduce the risk of having cerebrovascular diseases. Besides, the stroke rehabilitation approach we developed can be adapted to rural areas where medical resources are limited. This simplified stroke recovery treatment can be acquired by the patients themselves and therefore to improve their quality of life in the future.

Are you currently studying and if so what?

I am studying statistics and statistical software SAS. In addition, I’m also in the progress of applying doctorate in epidemiology at University of Sydney and the scholarship. What values of The George Institute do you appreciate the most and why?

I appreciate ‘creativity’ most. I think creativity is essential and crucial to China. As a developing country, it is of great importance to improve the health and support the rural population with innovative approaches. Though China has made relative regulations and laws, it is still far from enough. In my opinion, creativity should be the key of development. If you want to assess how well one country develops, the index should be what it has done to improve the lives of people living in resource-constrained areas. And what we are doing now is for the welfare of this population, in a creative way.

For detailed information on our fellowship and internship opportunities, please visit www.georgeinstitute.org.cn or contact xli@georgeinstitute.org.cn

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