



Collaborating Centre for Oxford University and CUHK
for Disaster and Medical Humanitarian Response
CCOUC 災區病人通融性研究所

無止橋 慈善基金
Wu Zhi Qiao Bridge to China Charitable Foundation



TRAINING MANUAL ON

Health and Disaster Preparedness

in Rural China



Editors:

Emily Ying Yang Chan, Kevin Sida Liu, Poyi Lee,
Kelvin Wai Kit Ling, Chi Shing Wong

Original Chinese Edition Authors:

Emily Ying Yang Chan, Crystal Yingjia Zhu,
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Chinese Edition Editor: Chi Shing Wong

English Edition Editors: Emily Ying Yang Chan, Kelvin Wai Kit Ling, Chi Shing
Wong, Kevin Sida Liu, Poyi Lee

Translators: Kelvin Wai Kit Ling, Karen Ka Ying Li, Michelle Po Kwan Chan

Reviewers: Gloria Kwong Wai Chan, Tony Ka Chun Yung, Carol Ka Po Wong

Designer: Tracy Zhe Si Ying, Cherry Yuk Ting Lau

Illustrator: Kuo Zhou

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Sponsor: The logo for the Lee Hysan Foundation. It features the Chinese characters '利希慎' in a stylized font, with a small '基金' (Foundation) to the right. Below the Chinese characters, the words 'LEE HYSAN' are written in a bold, serif font, and 'FOUNDATION' is written in a smaller, bold, sans-serif font below that.

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Collaborating Centre for Oxford University and CUHK
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Wu Zhi Qiao (Bridge to China) Charitable Foundation

Foreword

 I am glad to have come to know Professor Emily Chan in activities of Wu Zhi Qiao (Bridge to China) Charitable Foundation in Hong Kong and feel honoured to be invited to write a foreword for the *Training Manual on Health and Disaster Preparedness in Rural China* written by Professor Chan.


As a public health scholar, Professor Chan has been devoting to promote health and disaster preparedness programmes suitable for ethnic minority areas in rural China that are deficient in medical resources. Since 2009, Professor Chan and her project team have visited more than 20 rural mountainous villages in nine provinces, including Sichuan, Gansu, Guangxi and Yunnan, mobilising university students from both Hong Kong and the Mainland to join public health and humanitarian response activities to allow young people living in big cities to understand the grassroots rural villages and allow the rural villagers to know about healthy living in turn.

Compiled by Professor Chan and her team who meticulously selected and organically integrated the cutting-edge knowledge in global health with the first-hand experience of disaster response in rural areas, this manual serves as training materials and practical

operation guidelines for rural health workers. Focusing on water, indoor environment, waste management, health behaviour and disaster preparedness and risk reduction, this manual covers various aspects of these topics including the risk involved, possible solutions, health education employed, programme evaluation and volunteer training. Being a professor in public health, I highly recommend this manual as it suits the practical needs of working in the rural areas and has very high practical value in guiding rural health programmes. As a fellow member in the public health sector, I further urge our colleagues and students to look to Professor Chan as a role model in her dedication to community and charity work as well as her persistence in realising aspirations.

Professor Lu Li
Chairperson
Social Medicine Branch,
Chinese Preventive Medicine Association
People's Republic of China
Director
The Institute of Social Medicine and Family Medicine,
School of Medicine, Zhejiang University

June 2014



The *Training Manual on Health and Disaster Preparedness in Rural China* compiled by Professor Emily Chan and supported and co-published by Wu Zhi Qiao (Bridge to China) Charitable Foundation has recalled the sweet memory of my personal experience in rural China. In May 2013, I joined Wu Zhi Qiao and Professor Chan's CCOUC team to trek across the rugged terrain in rural Gansu Province to conduct health education and experience first-hand the rudimentary hygiene conditions in poor remote rural villages of China. This experience made me reflect upon the urban-rural disparity and the moral responsibility urban dwellers, being the biggest beneficiary of economic development, have towards rural villages.

For many years, The Chinese University of Hong Kong (CUHK) has acclaimed and fully supported the humanitarian works by CCOUC and Wu Zhi Qiao. Through sponsoring CUHK students to join their teams to rural villages in China, their works in the poor remote rural parts of the country have also been incorporated into the service and experiential learning programme offered by the university to students to promote their personal growth, elevate their civic virtue, and nurture them into responsible global citizens. Here, I would like to express our gratitude towards the devotion and endeavours of CCOUC and Wu Zhi Qiao.


As a medical professional myself, I affirm the importance of the preventive health education in rural villages conducted by Emily and her team. I am also delighted to see both healthcare and non-healthcare students

in her teams, which offers a chance for committed individuals inside and outside the healthcare system to collaborate and learn from one another while cultivating their humanitarian spirit. Supported by and collaborating with Wu Zhi Qiao (Bridge to China) Charitable Foundation, the publication of this manual based on the frontline field experiences of Emily and her team is yet another milestone of the medical humanitarian works she has been enthusiastically promoting, which will provide many valuable reference materials for frontline organisers and volunteers of rural development projects in China.

I congratulate the achievements of the *Training Manual on Health and Disaster Preparedness in Rural China* writing team. I hope that this manual can serve as a bridge for students and other volunteers to enter the remote rural villages in China to conduct health education and disaster preparedness training as well as a doorway for them to explore humanitarianism, thereby allowing them to have an all-rounded understanding of the problems to be resolved amidst the full-speed development of China and to introduce to local and overseas communities another China they can see via the prism of humanitarian spirit.

Professor Joseph Jao-Yiu SUNG
Vice-Chancellor and President
The Chinese University of Hong Kong

January 2015

 In all things we must take care. Most of all we must take care of each other.

Those people who take part in the research and delivery of disaster and medical humanitarian aid, and in this context enable preparedness for such aid, are amongst those whom we must take particular care to support and nurture: so as to enable them to continue their good work in the most effective way possible; so that they may learn and pass on skills to individuals and communities; so that they may continue to demonstrate what it truly means to be a global citizen.

This training manual is a core component to enabling all of these goals, offering unrivalled insights into health and disaster preparedness in rural China.

The passion and drive of colleagues and students in this field continues to inspire me. I offer you fellowship.

Fellowship

*I argued with the sea for a while,
but it needed no sentry, so I led down.*

*I sought comfort from the earth for a while,
but it did not take me in, so I stood up.*

*I berated the sky for a while,
but it heeded no plea, so I turned inward.*

*I focused my mind for a while,
but it held no answers, so I gave up.*

*I leant into the wind for a while,
but it offered no support, so I was alone.*

*I fed a witless fire for a while,
but it burnt my hands, so I sought aid.*

*I joined hands with my fellows,
and found the succour I sought.*

I should have known.

D J Nash, 2015

Mr Darren NASH
Associate Head of Department (Academic Support & Finance)
Nuffield Department of Medicine,
University of Oxford

December 2015

 Our collaboration with Professor Emily Chan can date back to an earthquake in Panzhihua of Southern Sichuan in 2008. At that time our collaborative project was located in a remote, mountainous Yi minority village. Although 90% of the local mud houses had collapsed, media reporting and external assistance were minimal. Against this background, the road to reconstruction was tough. Sharing the same humanitarian spirit of love and care, while our university team of engineering and architecture backgrounds joined hands with villagers to fix and build infrastructure as bridges and houses step by step, Professor Chan led her disaster and medical humanitarian response team to design a series of health education activities to strengthen villagers' awareness of health and disaster preparedness issues. As the hardware and software complemented one another, we could improve villagers' livelihood and environmental health in a more comprehensive way and help villagers re-build their livelihood and communities.


Wu Zhi Qiao strives to build a collaborative platform across universities. Through engaging committed individuals from different disciplines and professions to experience lives and difficulties in the village first-hand, Wu Zhi Qiao aspires to mobilise young souls to make concrete and positive changes to lives with their own hands. Established by Professor Chan, CCOUC has long been a close collaborator of Wu Zhi Qiao as we share the conviction that each project is a seed-sowing process: behind building bridges and houses and conducting health education and livelihood projects, we hope to plant the seed of love and care in the hearts of our teams and let them flourish in their respective professions and different life stages in future.

Throughout the course of collaboration over the past seven years, we have learnt and gained lots of invaluable experience. With the generous support from Lee Hysan Foundation, we were able to have an interim review, crystallise and pass on our experiences and insights over these years, notably teasing out experience in the five domains of water and health, indoor environment, waste management, health behaviour and disaster preparedness and risk reduction to compile a manual so as to provide guidance on project planning for Wu Zhi Qiao volunteers and others who are dedicated to serve in rural villages.

Sustainable development paying special attention to health in the rural areas is a long-term venture, which requires the devotion of enormous amount of patience and effort by multi-disciplinary professionals and volunteers. We sincerely hope that the publication of this manual can provide crucial information of direction and practicality for volunteers working in rural areas to plan their health promotion and disaster preparedness education projects, and this manual could become a “bridge” for them to launch their health promotion projects in the rural areas, to facilitate them to disseminate health knowledge more effectively, and to make more positive changes to lives.

Ms Leonie Man-Fung KI, SBS, JP
Honorary Secretary
Wu Zhi Qiao (Bridge to China) Charitable Foundation

January 2015

 In 2007, based on public health theories and principles, and with the strong support from the Jockey Club School of Public Health and Primary Care of The Chinese University of Hong Kong (CUHK), my team and I launched the “CUHK Public Health Humanitarian Initiative”. Since then, we have been organising and bringing colleagues and students in the School to remote rural communities in China to engage in health and disaster preparedness education activities and research. Subsequently, the Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC) was established in Hong Kong in 2011 through the joint effort of the two universities. This rural project was re-named “Ethnic Minority Health Project”.

As of January 2016, CCOUC team has visited 25 villages of 19 ethnic minority groups in eight provinces to deliver public health and medical humanitarian service and provide education opportunities to aspired students and practitioners. Important partners such as Wu Zhi Qiao (Bridge to China) Charitable Foundation, the Chinese Center for Disease Control and Prevention (China CDC), villagers, as well as community counterparts have allowed our effort to reach out to the poor and disaster-prone remote ethnic minority-based rural communities in China.

To enhance the effectiveness of volunteer training and sum up the lessons learnt from experiences, with the support from the Wu Zhi Qiao (Bridge to China) Charitable Foundation in 2012, CCOUC has documented the frontline field experience and published the traditional and

simplified Chinese versions, and now the English version, of this *Training Manual on Health and Disaster Preparedness in Rural China*. This manual intends to introduce how to plan health and disaster preparedness projects in remote Chinese villages. Experience summaries and common fallacies identified from our team's health and disaster preparedness education activities are shared in this manuscript. This manual is in its first English edition. The team has attempted to ensure that the content is accurate, valid and practical for use. Readers are welcome to visit CCOUC's website (www.ccouc.org) for future updates.

On behalf of the CCOUC field and writing teams, I must thank the generous financial support from Wu Zhi Qiao (Bridge to China) Charitable Foundation and the Lee Hysan Foundation. Special appreciations are expressed to Professor Lu Li, Chairperson of the Social Medicine Branch of the Chinese Preventive Medicine Association of China, Professor Joseph Sung, Vice-Chancellor of CUHK, Mr Darren Nash, Associate Head of Nuffield Department of Medicine at University of Oxford and Ms Leonie Ki of Wu Zhi Qiao (Bridge to China) Charitable Foundation for their unfailing support. In addition, our journeys would be different without the hospitality and full support from villagers and project collaborating partners over all these years. With immense enthusiasm, patience and generosity, our field counterparts served as our mentors, tolerated our ignorance and provided us with a window to learn about their realities. In particular, the villagers have embraced us, opened the door to our learning and allowed us to appreciate challenges and joys in their lives.

Last but not least, I am truly grateful to my fellow authors (Crystal Zhu, Poyi Lee and Kevin Liu), editors (Chi Shing Wong and Kelvin Ling) and reviewers (Gloria Chan, Tony Yung and Carol Wong) for their engagement and effort, as well as all the support given to us by the Jockey Club School of Public Health and Primary Care at CUHK and Nuffield Department of Medicine at University of Oxford. I am extremely glad to have a team of dedicated and capable colleagues in the past seven years, who have been braving all challenges, difficulties, hurdles and joys in the process of building this precious and exciting project. I hope readers would also share the excitement and may benefit from the humbling experience and insights that we have gained in these special communities.

Professor Emily Ying-Yang CHAN
Professor and Director
Collaborating Centre for Oxford University and CUHK for
Disaster and Medical Humanitarian Response (CCOUC)
Associate Director (External Affairs and Collaboration)
Jockey Club School of Public Health and Primary Care,
The Chinese University of Hong Kong
Honorary Research Fellow
Nuffield Department of Medicine,
University of Oxford
Visiting Scholar
FXB Center for Health and Human Rights,
Harvard University

January 2016



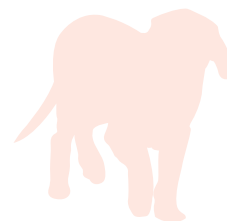
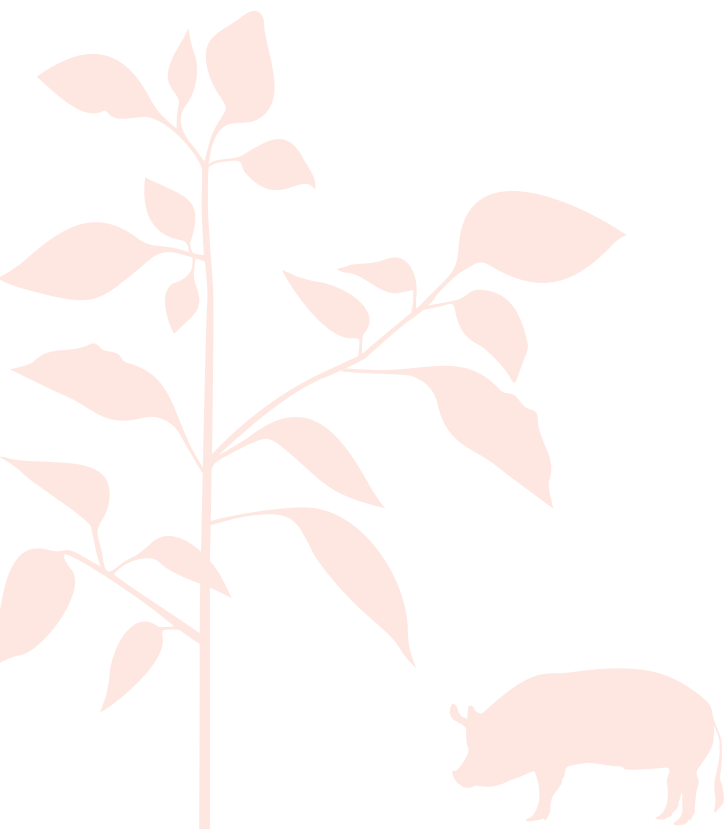
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1

Introduction

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1.1 Purpose of Writing



▲ Forging a bridge between local villagers and volunteers

The Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC) has established long-term partnerships with organisations such as Wu Zhi Qiao (Bridge to China) Charitable Foundation (WZQ), advising students on public health assessment and health promotion at the field level. This manual provides project exemplars, addresses the key principles of public health and summarises the most common myths in frontline practice to serve as a reference

for volunteers in planning, implementing and evaluating field surveys and field-based health promotion projects.

Based on the experience and observations of CCOUC in its flagship “Ethnic Minority Health Project”, this manual discusses five key health issues and challenges for disaster preparedness for residents in disaster-prone, remote and rural areas in China. It documents how the CCOUC team has combined theory with practice in order to implement cost-effective public health projects to address some of the local issues relating to villagers’ health and disaster preparedness.

This manual aims to:

- Raise the volunteers' awareness of common health needs and disaster preparedness in rural China;
- Support planning of health promotion and/or disaster preparedness projects and guide implementation for volunteers and rural project organisers;
- Provide case studies and activity exemplars for field-based public health projects;
- Promote multi-disciplinary collaborations and professional exchanges; and
- Enhance community health and disaster preparedness levels in China's rural communities.



1.2 Project Background

The predecessor of CCOUC is the Public Health Humanitarian Initiative (PHHI) of the Jockey Club School of Public Health and Primary Care at The Chinese University of Hong Kong (CUHK). In 2009, the team started an “Ethnic Minority Health Project” in collaboration with a number of non-medical, community-based organisations. The project aims to enhance local villagers’ ability to protect their health and to reduce disaster risks through conducting health and disaster preparedness needs assessment in rural, poor and disaster-prone ethnic minority areas in China, which is then followed by health education^[1] and health promotion^[2].



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▲ Health education

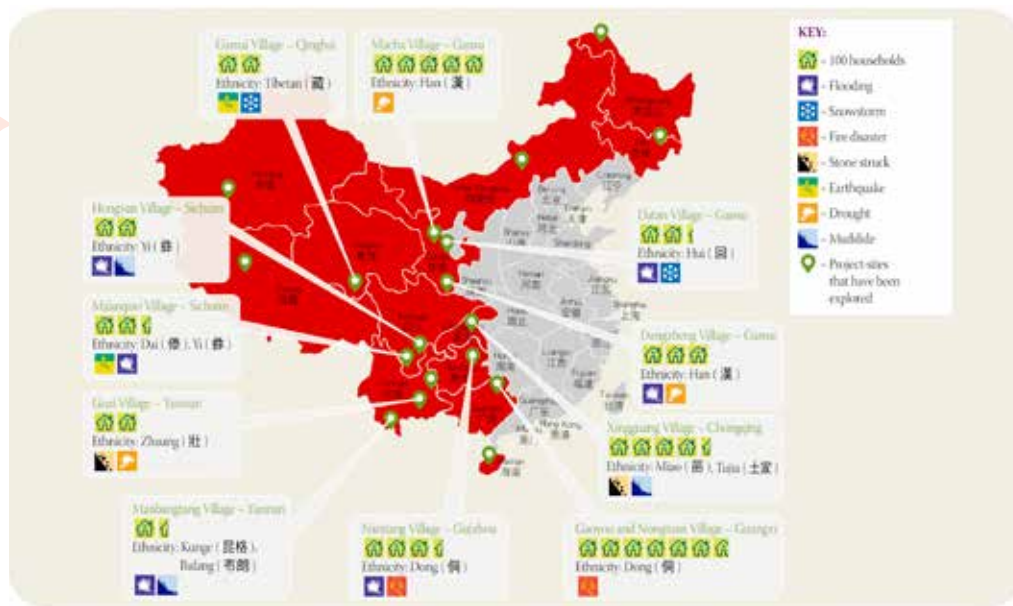
[1] Health education^[1] is people-oriented. Through planned and systematic educational activities, it enhances people's understanding of health knowledge about establishing correct health attitudes and supports them to alter unhealthy behaviours, in order to achieve the goals of preventing disease, promoting health, and improving quality of life. Health education, along with social and behavioural sciences, is the core part of public health learning and practice.

[2] Health promotion^[2] is the process of encouraging people to maintain and improve their health. In order to achieve the optimal physical, psychological and social conditions, individuals or communities need to know what a healthy lifestyle is before they can make the necessary health choice. The concept of health covers both physical state and social resources.

As of December 2014, CCOUC had visited 21 remote, poor and disaster-prone ethnic minority rural villages, including the settlements of Dai, Hui, Naxi, Dong, Li, Yi, Miao, Zhuang, and Gelao. Projects were subsequently completed in Ma'anqiao village near Jinshajiang region in Sichuan Province (Dai), Datan village on the Loess Plateau in Gansu Province (Hui), Gaoyou and Nongtuan villages in Sanjiang county of Guangxi Province (Dong) and Macha and Dangzheng villages in Gansu Province (Han).

In view of the importance of having volunteers and organisers working at the frontline, CCOUC and WZQ jointly launched a public health knowledge transfer project in rural China in June 2013. The main goal of the project was to publish a "Training Manual for Health and Disaster Preparedness in Rural China", and promote its use in other rural areas if proven beneficial in field testing.

Visited or potential sites of the "Ethnic Minority Health Project"



(as of 2015)



@CCOUC

▲ Volunteers conduct interview with villagers.

1.3 Instructions for Use

Case studies and recommendations in this manual were drawn from CCOUC team's work in remote rural villages in China from 2008 to 2014. This manual does not intend to cover all the recommendations regarding infrastructure for rural development. It focuses on guiding villagers to consider the most appropriate health and disaster preparedness behaviour by increasing community awareness of the existing health risks and problems via health promotion activities.



Target Audience

- Individuals who aspire to launch or implement health and disaster preparedness promotion projects in rural China
- Volunteers with limited medical and public health background
- Persons who want to understand issues relating to health and disaster preparedness in rural China

The field-based public health promotion methods introduced in this manual are based on the recommendations by the World Health Organization (WHO) and the Sphere Project: Humanitarian Charter and Minimum Standards in Humanitarian Response (the SPHERE standards). This manual has also made references to the Chinese edition of A Community Guide to Environmental Health published by Hesperian Health Guides and Manual on Environment and Health in Rural Villages by Yunnan Health and Development Research Association.

Chapters at a glance

Chapter 1	<ul style="list-style-type: none">• Introduce the purpose and background of this manual.
Chapter 2	<ul style="list-style-type: none">• Present the current public health situations in rural China.
Chapter 3	<ul style="list-style-type: none">• Discuss the common myths of health promotion.• Discuss how health promotion projects can be planned and implemented.
Chapter 4	<ul style="list-style-type: none">• Outline some widely used health promotion and simple evaluation methods for project effectiveness assessment.
Chapter 5	<ul style="list-style-type: none">• Describe examples of health and disaster preparedness projects in rural communities.
Chapter 6	<ul style="list-style-type: none">• Conclusions

1.4 Notes for Volunteers

Volunteers are often enthusiastic and passionate when providing services and implementing health promotion activities. Can these voluntary activities benefit the rural communities? Five important principles are put forward for volunteers to consider:

- **Do not promise lightly**

Before promising villagers any service or activity, volunteers should always analyse the purpose and nature of that task and carefully examine their own ability. Once promised, the service should be delivered with every effort.

- **Hold a sense of respect**

Volunteers should respect the local culture, language, religion and practices. Before visiting a village, basic contexts of the village such as villagers' daily routine and living habits should be explored. If it is a settlement of ethnic minority groups, special attention should be paid to any taboos among villagers to avoid unnecessary impoliteness or embarrassment during household visits or health promotion activities.



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▲ Know and consider carefully about villagers' real needs.

- **Know and care about the genuine needs of the villagers**

Volunteers should examine villagers' health needs in an objective way instead of imposing their own values of health needs on them. Services and health promotion should not be delivered in such a way that a favour is being bestowed on the villagers.

- **Hold a humble and thankful learning attitude**

Volunteers should be humble to learn when delivering interventions, rather than having a sense of superiority. For example, volunteers could stay in the villagers' homes for a few days. This allows them ample opportunity to better understand local living habits and benefit through this experience. Volunteers can also obtain a deeper understanding of the local livelihood from working closely with local translators.

- **Teach by personal example**

As promoters of health and disaster preparedness, it is important for volunteers to set a good example through their own actions. For instance, volunteers should not smoke or litter in the village. Instead, they should collect the waste generated during their activities in the village and bring them out of the village upon departure.



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▲ Volunteers should be humble to learn when delivering interventions.

2

Public Health in Rural China

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2.1 Overview

In China, a large proportion of the country's total population resides in rural areas. Coupled with the urban-rural disparities in economic development, the three issues of agriculture, rural villages and farmers have become prominent agenda in China's development strategy. Population ageing and epidemiological transition of diseases add to the widening urban-rural gap in health, which brings many challenges to rural projects⁽³⁾.

The CCOUC project aims to identify examples and simple health intervention activities to raise villagers' health awareness and disaster risk literacy.

According to the 2010 national census⁽⁴⁾, the rural population in China constitutes half (670 million) of the total population. The 2009 national household survey found that a rural household on average has 4 regular members, of which 1.9 are income-generating members. The results of CCOUC household surveys in rural China found that the regular household size is mostly between 4 and 5 people, which is in line with the national findings. CCOUC studies also found that the regular residents in the villages were mostly elderly and children since most of the rural working population worked away from home



▲ Population ageing

to earn more for the family. Most notably, in Gaoyou village of Guangxi Province and Datang village of Gansu Province, more than 80% of the regular population were elderly and children. In these rural villages, most of the elderly had received no formal education or not completed primary school. Due to their low education level and inability to communicate effectively in Mandarin, their access to health and disaster preparedness knowledge was grossly hampered. Even for the younger population in the village who have received formal education, their awareness and knowledge of health-related issues remained largely

limited. This illustrates the importance of understanding the characteristics of the local population before launching health-related projects in remote rural villages.

While most villages have a basic health facility, its function is constrained by human and other resources: there is usually only one doctor equipped with rudimentary facilities to provide basic medications. Rarely can a village clinic arrange thorough medical check-up. CCOUC surveys found that only around 30% of the villagers consider themselves healthy while 40% to 50% perceive their own health status as poor and on average see a doctor four to five times a year. According to the village doctors, 80% of their patients suffer from seasonal flu, diarrhoea, skeletal-muscular problems and hypertension, while the remaining unconfirmed diagnoses or cases which village doctors have limited capacity to handle are referred to the county or city hospitals. Large-scale outbreaks of communicable diseases are rare.

A village clinic ►



@CCOUC

2.2 Current Development and Challenges

Five health and disaster preparedness education topics (i.e., water and health, indoor environment, waste management, health behaviour, and disaster preparedness and risk reduction) are discussed in this manual. The respective health promotion activities are detailed in Chapter 5.

2.2.1 Water and Health

The report jointly-published by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in 2000⁽⁵⁾ revealed that 2.2 million people across the globe die from diarrhoea every year and highlighted unclean water drinking as one of the main causes of contracting the disease. In rural China, it is observed that health issues related to water include:

- **Inadequate protection of the water sources:** While water shortage is not generally a problem in rural China, whether the water is potable is another issue. For example, some villagers bring their livestock to drink at the same river from which villagers get their drinking water directly, thus leading to cross-contamination.
- **Lack of basic sanitation infrastructure:** Research shows that the provision of toilet facilities has a significant disease-prevention effect: the incidence



▲ Safe drinking water can prevent 1.4 million child deaths across the world from diarrhoea annually.

of gastrointestinal diseases among areas with more readily available toilet facilities is lower⁽⁶⁾. CCOUC's studies found that toilet availability in remote areas is low. In the project sites visited, 43% of the villagers do not have a fixed place for excretion. Unprocessed human waste directly exposed to the air may provide breeding grounds for vectors, thereby increasing the risk of vector-borne communicable disease outbreaks. Of note, readily available toilet facilities do not necessarily guarantee good personal hygiene practice.

- **Lack of safe water management knowledge:**

Many villagers collect rainwater for drinking during prolonged drought. Despite knowing that drinking boiled rainwater can prevent diseases, only 74.7% of the villagers in these villages follow this practice. In villages with adequate water supply, fewer than half of the villagers drink boiled water, believing that the mountain water is clean.

- **Improper personal hygiene habits:** In addition to drinking water management, practising good personal hygiene habits is a prerequisite to disease prevention and health protection. For instance, the basic practice of washing hands before a meal and after toilet use plays a significant role in preventing diarrhoea. Surveys in CCOUC project sites found that 30.4% of villagers do not have the habit of washing hands before a meal.



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▲ Forty-three percent of the villagers do not have access to a fixed toilet.

2.2.2 Indoor Environment

Common indoor environmental health hazards include indoor air pollution (incomplete combustion of cooking fuel and indoor smoking) and unconfined livestock within the indoor living compound.

- **Indoor air pollution caused by incomplete combustion of cooking fuel**

According to WHO statistics in 2002, indoor air pollution caused an estimated 2.5 million deaths annually in developing countries, constituting 4-5% of the annual 50-60 million global deaths. Indoor smoke from the combustion of solid fuels increases the risk of childhood acute respiratory infections, particularly pneumonia, and probably otitis media; chronic bronchitis and chronic obstructive pulmonary disease, especially among women; reduced birth weight; infant and perinatal mortality; tuberculosis; and cataract⁽⁷⁾. In rural China, villagers use primarily solid fuels (e.g. firewood or cow dung). One study on air pollution in rural China found that the highest mean concentrations of PM_{2.5} and PM₁₀⁽⁸⁾ (368.5 and 588.7 µg/m³) recorded in sitting rooms in a rural village during winter were 5.7 and 3.9 times of corresponding health guidelines⁽⁹⁾.



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▲ In rural China, firewood remains the primary fuel for cooking.

- **Unconfined livestock within the indoor living compound**

It is common to see livestock roaming around in rural China households. Not only do the livestock bring indoor unpleasant odour, they also disrupt household hygiene by leaving their faeces inside, providing a breeding ground for pests. With poorly ventilated indoor environments, villagers face an increased risk of contracting communicable diseases⁽¹⁰⁾.



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- ◀ In 2002, indoor smoke generated from the combustion of solid fuels caused 2.5 million pre-mature deaths annually in developing countries.

In rural villages, keeping livestock in residential houses is a common practice. ▶



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2.2.3 Waste Management

Following rapid socio-economic development, the consumption patterns of farmers have been changed. More industrial products can be found in farmers' daily lives. Study indicates that rural China generated 140 million tonnes of waste in 2000, based on the average domestic waste of 0.8 kg per person per day⁽¹¹⁾. An annual growth rate of 10% is expected. The most worrying aspects are the lack of knowledge on proper waste management and the inappropriate handling of pesticide-related waste.

- **Lack of knowledge on waste management**

With modern lifestyle, most rural villages face the dire prospect of being surrounded by an ever-increasing amount of waste. Some villages with good transportation connections or more financial resources often have centralised waste collection and transport them to the landfill nearby. CCOUC household surveys in rural areas found that 82.3% of the villagers had the habit of burning waste (including plastics) at home. Most of them were unaware of the risk improper waste management poses.

- **Improper handling of pesticide-related waste**

Improper use and handling of pesticides can lead to acute and chronic toxication, as well as an environmental hazard⁽¹²⁾. The labelling, storage, use and recycling of pesticides should be handled with great caution.



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▲ Waste should be handled with care.

2.2.4 Health Behaviour

Each village has its unique character, power structure, unspoken rules, needs and organisation. Since health habits are closely linked to these social contexts, the latter should be taken into account when planning health promotion. For example, not only are smoking and drinking usually considered as basic social etiquette, they are also symbols of masculinity. Moreover, rural villagers are unaware of chronic disease management, which increases the chance of further disease progression.

- **Physical harm of smoking for oneself and others**

According to the statistics of the National Bureau of Statistics of China in 2008, around 48.0% of male aged 15 or above smoked, with the proportion higher in rural than in urban areas. The proportion of smokers who smoke more than 20 cigarettes daily has increased from 51.3% to 61.6% between 2003 and 2008.



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▲ Proportion of smokers among males is higher in rural than in urban areas.

▲ Forty-three percent of the villagers interviewed by CCOUC had chronic illnesses that require long-term medications.

● Health impact of alcohol consumption

A study of the drinking status among people in 25 provinces in China⁽¹⁴⁾ found that Chinese people had severe problems in alcohol consumption. Drinking prevalence among male and female was 84.1% and 29.3%, respectively, in which up to 65.3% were unqualified as having healthy drinking status while only 0.51% possessed correct knowledge and proper attitude in alcohol consumption. More than 30% of drinkers did not agree that “excessive drinking is harmful to health and the concentration and quantity of alcohol consumption should be controlled”.

● Lack of knowledge on and management of chronic diseases

Chronic illnesses have long been considered as “urban diseases”. Yet, it has silently invaded rural areas. A survey of the nutrition and health status of Chinese people in 2002 revealed that the prevalence of chronic illnesses in urban and rural areas is 19.3% and 18.6%, respectively⁽¹⁵⁾.

CCOUC also found in its studies that only half of the 43.4% of villagers who needed long-term medications due to chronic illnesses could afford to buy medications regularly. Due to their limited financial resources and accessibility, villagers are usually unwilling to see a doctor unless absolutely necessary, which results in delayed treatment and avoidable complications.

2.2.5 Disaster Risk-Related Preparedness

With a large population and complex geographical and meteorological conditions, China faces the widest variety and the most severe impacts of disasters in the world. In the early 1990's, natural disasters caused huge human and economic losses in China: there were an average of more than 200 million disaster victims annually and a direct economic loss of over 100 billion Renminbi^[16].

- **Geographical, economic and living conditions limiting China's disaster resilience**

About half of China's population reside in disaster-prone areas, and a significant proportion of this population are ethnic minorities living in remote rural villages. The economic and education levels in these areas remain low and resources are deficient, which increase villagers' risk of suffering from death and property loss in disasters.

- **Lack of awareness of disaster preparedness and risk reduction**

Global climate change has increased the frequency of extreme weather and meteorological natural hazards in China. Disaster preparedness and risk reduction thus become more pressing issues. As the

settlements of ethnic minorities are usually located in remote areas, it is difficult and time-consuming for external assistance to reach these groups once a disaster strikes. Villagers hence need to rely on their own capacity and preparedness at the early stage of disaster response. Nevertheless, CCOUC studies found only 20% to 30% of villagers are confident that they have the ability to protect themselves and their family members in a disaster.

The next chapter will introduce how health promotion projects can be planned.



@WZQCF

◀ About 50% of China's population reside in disaster-prone areas.



Since the early 1990s, there were more than 200 million people affected by natural disasters annually in China. ▶

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3

Planning for a Health Promotion Project

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3.1 Myths of Health Promotion

Although health promotion is a common approach to improve health outcomes, there are some widely-held myths surrounding such efforts. This chapter aims to impart a basic understanding of the relevant theories.

Some key myths to be considered in health promotion include:

Myth 1: Change in behaviour is easy to achieve

Reality: While changing long-standing habits is not impossible, it is full of challenges. It requires an appropriate combination of time, patience, resources, techniques and favourable environmental factors.

Myth 2: Experts know how to change one's behaviour

Reality: Even though experts can provide technical information and share relevant experience, the local culture, needs, circumstances and the stakeholders' views should be taken into account.

Myth 3: Change in behaviour can be achieved by knowledge enhancement alone

Reality: Although education on health habits can enhance people's knowledge and may serve as the foundation

for a change in behaviour, sustainable change of behaviour requires resources and time, and is subject to labelling effects and peer pressure. Volunteers working on health promotion should understand that knowledge enhancement does not necessarily lead to a change in behaviour.

Myth 4: A range of changes in health behaviours should be promoted altogether

Reality: As change in behaviour is a complex process, it must be implemented systematically, strategically and gradually.

Myth 5: Health promotion requires not much resource

Reality: Real change in behaviour requires long-term resource investment, professional expertise and community commitment. A good health promotion project needs detailed planning and the full participation of multi-disciplinary stakeholders.

Change in behaviour is a complex process and not a lot can be changed in a single attempt. ►



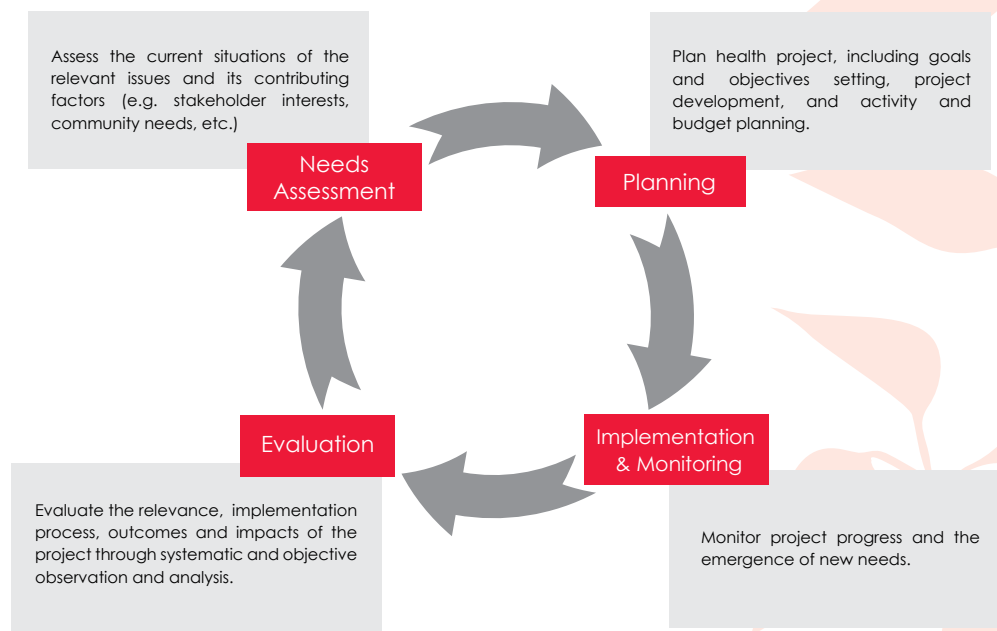
3.2 Project Cycle

Project cycle can guide the design and management of a project. In this manual the project cycle framework of the International Federation of Red Cross and Red Crescent Societies is referenced⁽¹⁷⁾. The time required for the completion of each stage changes with the project content, while the implementation of the project also changes based on the feedback received and the adjustments made. Figure 1 illustrates a typical project cycle in health promotion.

3.2.1 Needs Assessment

Needs assessment is an important part of project planning. Common assessment methods include in-depth interviews with key village stakeholders, focus group discussions and household surveys. For focus group, participating villagers can be divided based on gender to explore issues specific to each group.

Figure 1. Project Cycle





3.2.2 Project Planning

The following subsections will outline how to plan the project goals and objectives, arrange the project content and work out the activity plan.

Planning Project Goals and Objectives

Project goal planning includes two major elements:

1) the people affected and 2) the knowledge, attitudes and behaviours to be changed. The projects targeted by this manual are those catering for villages of 200 to 300 households, which aim to impart new knowledge and capabilities through health education and promotion, and hopefully bring about attitudinal and behavioural change via long-term technical support. This is a long process and it is unrealistic to expect that villagers' entrenched behaviours can be changed after a single education and promotion activity. Users of this manual should therefore adjust their expectations reasonably and consider the issue of feasibility when designing the goals.

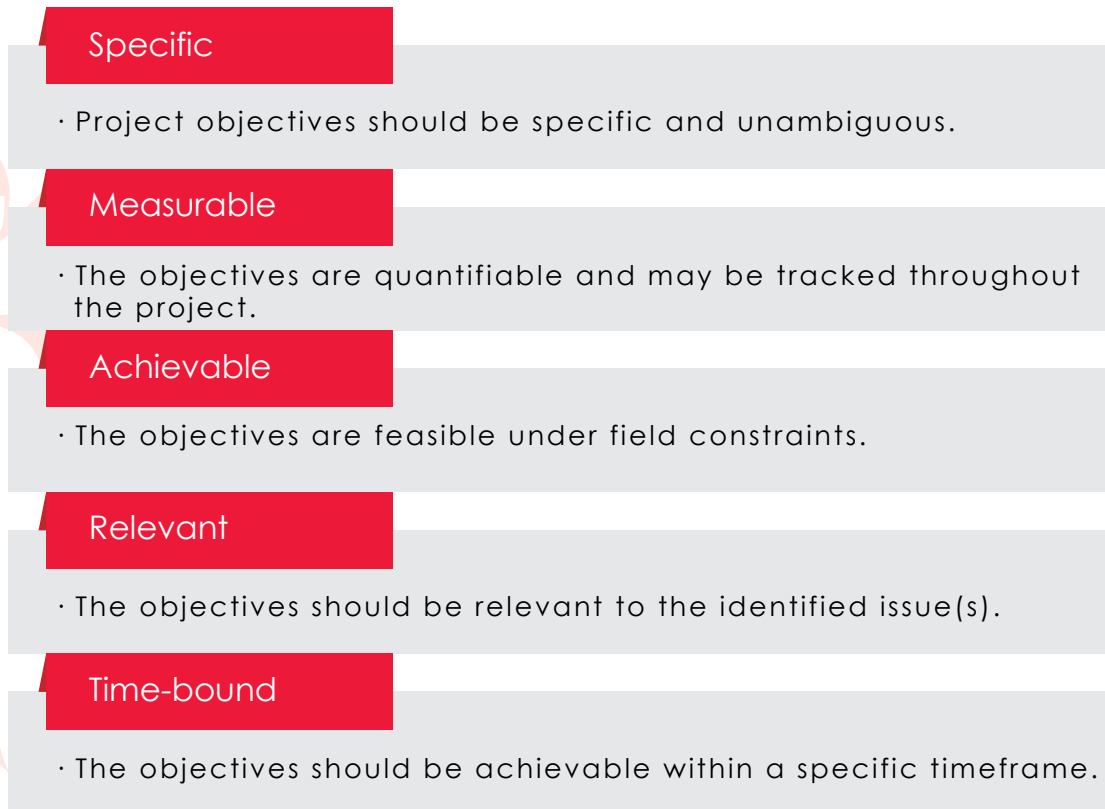
Objectives refer to the expected outcomes of the intervention measures, including the methods and steps adopted in the process of achieving the goals, which are more concrete standards for evaluation than goals. Objective planning is an important process of setting the desirable and practical outcomes. Objectives should be designed based on the SMART principles (see Figure 2). Due



▲ As education promotion could only act on the cognitive level, reasonable expectation is required when designing goals.

to resource constraints (e.g. time, manpower and money), one project may not be able to achieve all possible objectives. Therefore, objectives should be chosen taking into consideration the specific situations of the issues to be resolved, e.g. stakeholders' awareness of the issues, the needs of the target groups and the availability of resources.

Figure 2. SMART principles in designing project objectives



Designing Project Content

A number of theories and models in public health help conceptualise people's knowledge, attitude and behaviour that may be related to health outcomes. Health promotion projects in this manual mainly adopt the concepts in the health belief model (HBM)⁽¹⁸⁾, including perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy and cues to action, which are explained in Figure 3.

Smoking is employed as an example below to elucidate these concepts from HBM.

- **Perceived Susceptibility:** How likely a smoker believes his/her health would suffer due to smoking (e.g. whether a smoker perceives that he is likely to get lung cancer as a result of smoking);
- **Perceived Severity:** How severe a smoker perceives smoking-related illnesses would be (e.g. whether a smoker perceives that the consequences of getting lung cancer are severe);
- **Perceived Benefits:** How a smoker perceives the benefits of quitting (e.g. whether a smoker perceives quitting could reduce his living expenses and improve his health conditions);
- **Perceived Barriers:** What a smoker perceives as the obstacles that stop him from quitting (e.g. whether a smoker perceives quitting would cause uneasiness in getting along with friends);

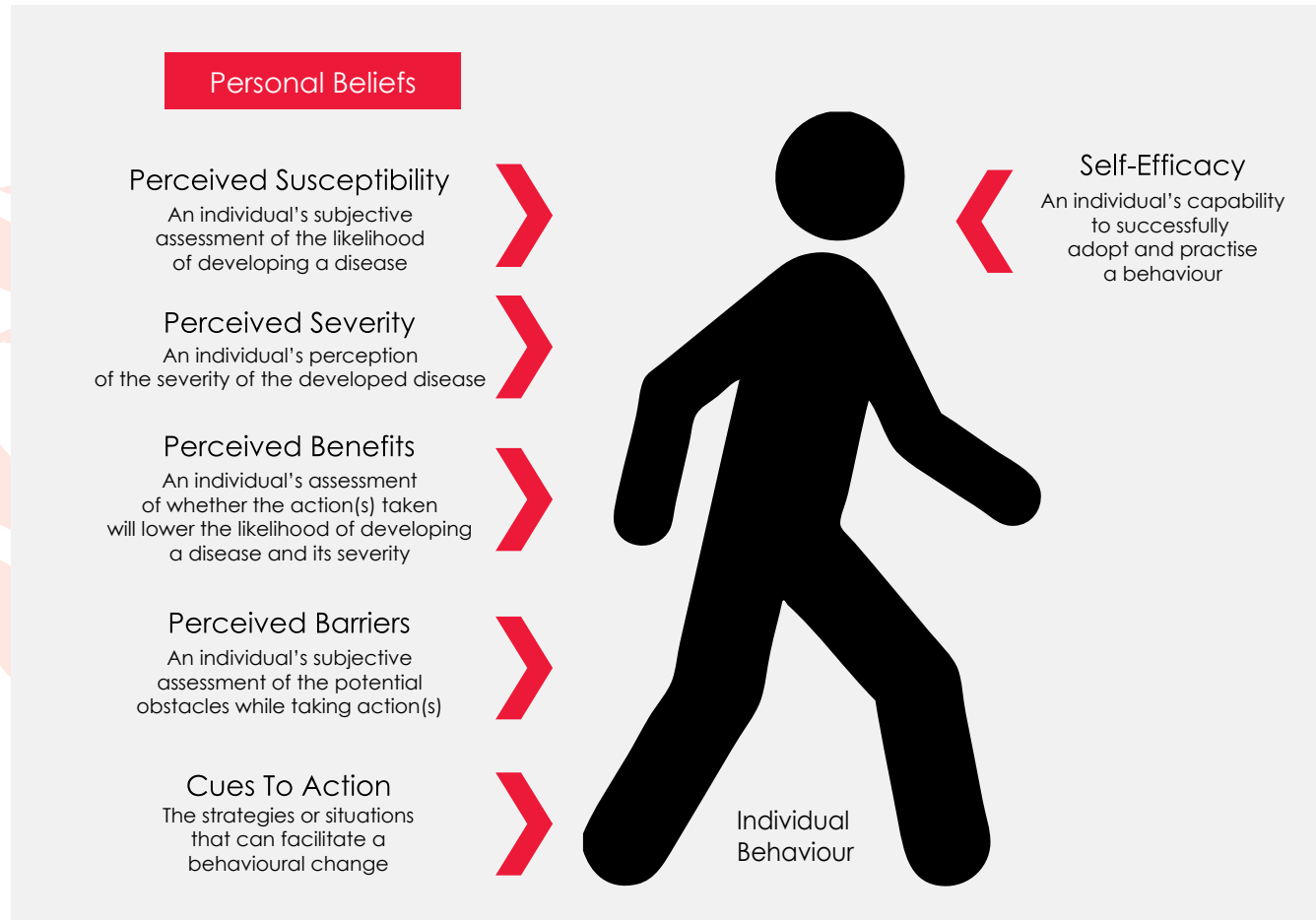
- **Cues To Action:** The cues to action for quitting can be external cues, such as reminders from family and friends, education activities in the mass media, reminder letters for health check-up, advices from healthcare professionals, or internal cues, such as self-perceived health conditions;
- **Self-Efficacy:** Whether a smoker believes he has the ability to quit smoking.

Most of the above concepts are related to personal beliefs of a smoker. Health intervention projects can address these belief gaps by designing different intervention points.

The basic principles of this theoretical model suggest that it is difficult to change health-related behaviour concerning those who do not have much knowledge and understanding on health. Hence, when designing key or take-home messages in health promotion sessions, emphasis should be placed on helping villagers understand their own health risks and benefits of adopting good health behaviours to ultimately change their own behaviours.

In general, no more than three key messages should be delivered in a single health promotion session. Too much information will limit audience's understanding and retention of the message content. The question of how to communicate the key messages will be discussed in detail in Chapter 4.

Figure 3: Health Belief Model



Key Points in Activity Planning

Limited disturbance to villagers' daily lives should be the basis for any health and disaster preparedness promotion activities. Prior communication and coordination with the village head or other key persons in the village regarding the promotion activity are required, so that they could help with the arrangement and inform the villagers to join the activity. To maximise the number of participants in the events, information like the daily routine of the villagers, festivals and villagers' farming peak seasons should be well-understood in the needs assessment stage of the project. Other key points to be considered in the planning process are as follows:

Venue Selection

Appropriate venues for promotion activities should be selected well in advance. For example, the maximum number of people a venue can accommodate should be considered; and loudspeakers should be prepared to ensure full participation of all villagers in the venue.



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▲ Contingencies like weather change need to be planned for.

Activity Design

A promotion activity is usually comprised of several themes. The coordinators of these themes should agree on the order of activities beforehand. A master of ceremony should be selected from the coordinators or invited from other volunteers. Preparation should also be made for complications, such as raining during an outdoor activity, damage or loss of prepared promotional materials in transport, etc.

◀ Loudspeakers should be prepared for outdoor venues.



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Challenges due to language and communication barriers are often encountered in health education projects. ►

3. Planning for a Health Education Projection

Crowd Control

Manpower should be properly arranged for crowd control in order to brief villagers when they arrive and direct them to the available seats.

Women usually bring their children to join these activities. As their enthusiasm towards and involvement in the activity will likely be affected when they divert their attention to their children, volunteers should offer support in these situations so that the women can concentrate on the health promotion activity. For example, volunteers can distribute some crayons and papers to children and accompany them to draw, or conduct some simple education activities among the children.



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◀ A master of ceremony is assigned to ensure the smooth running of the event.

Translation

Language and communication barriers are frequently encountered in rural communities. Project leaders should discuss with the village head beforehand to arrange for oral translation, and communicate adequately with the translators before the education event. All on-site health promotion activities must have at least one full rehearsal from beginning to end to ensure a clear understanding of the activity content by the translators.



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To clarify the issues discussed above, the following questions should be answered during the project planning process.

- 1: How much understanding of the target group characteristics do the organisers have?
- 2: What is the scope of the project?
- 3: What are the project's outcome indicators?
- 4: What approaches (methods and resources) would be used to achieve the project goals?
- 5: What are the key messages of the project?
- 6: How are these key messages conveyed?
- 7: Are there any contingency plans developed for the field context?
- 8: How are the villagers encouraged to participate?
- 9: How will the project effectiveness be evaluated?



3.2.3 Implementation and Monitoring

Monitoring is a continual process. Project organisers should monitor the processes and outcomes of a project's implementation in accordance with the pre-designed plan. Adjustment of the implementation or plan will be carried out to ensure the goals and objectives are addressed.

3.2.4 Evaluation

Programme evaluation⁽¹⁹⁾ requires regular collection and analysis of information in order to come up with a systematic assessment. This process is to ascertain associations among and completion levels of the goals, effectiveness, efficiency, impact and sustainability of the project. This evaluation is useful for incorporating the lessons learnt from the project into the future decision-making process. Asking participants to fill out questionnaires before and after the intervention is a common method for short-term evaluation. Based on CCOUC's rich experience in evaluating health projects in rural villages, the following are principles and key elements for designing such assessment questionnaires in remote rural communities.

1. **Relevance:** An interviewee's perception of the project's relationship with him/her.
2. **Importance:** An interviewee's perception of the project's importance to his/her health.
3. **Knowledge/Concept:** Judging an interviewee's awareness of some specific health knowledge and

concepts based on an interviewee's answer of "yes" and "no" to related questions.

4. **Self-efficacy:** An interviewee's perceived capability to persist or control in the process of behavioural change (e.g. whether an interviewee considers being able to refrain from smoking indoors).
5. **Practice/Intention:** Understanding an interviewee's daily routine before an intervention, whether he has the intention to change behaviour and if he finds it difficult to practise the relevant good health behaviour after the intervention.



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▲ Evaluation is important to ensure objectives are achieved and lessons learnt are documented.

4

Promotion Methods for Health Projects

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4.3	Drama/Performance/Game	51
4.4	Small Group Discussion	52
4.5	Souvenir	52

When planning a health promotion project in a remote rural village, volunteers need to prepare relevant materials and plan and implement the project within a reasonable time frame. Volunteers should consider feasibility, manpower and resources required. Initial field assessments and consultation with stakeholders like non-governmental organisations and local governments are important. This chapter introduces some common methods of teaching and promotion. Chapter 5 will explain each of these methods with concrete examples.

▼ Volunteers often have to adjust education materials according to field reality.



Health promotion practitioners should first consider the characteristics of the promotion venue (e.g. indoors vs. outdoors), electricity availability, number of participants, etc. Two copies of each set of teaching materials should be prepared, one should be given to the villagers whereas the other set be kept by the organisers for record. Moreover, it is better to use materials that can be made or purchased locally.

Some key points for various promotion methods are as follows:

4.1 Poster Design

1. The size of a poster should be tailored according to the content;
2. Pictures used on posters/banners should be large;
3. Given the education level in rural areas, text-based messages should be minimised for rural communities;
4. Local practices and taboos should be considered. For example, no images of pork should be displayed in Hui (Muslim) areas;
5. If posters are self-made, waterproof materials should be used to ensure the materials remain intact during long journeys. At the same time, relevant production materials (e.g. scissors, colour pens, markers and glue) should be prepared and brought along in case posters are damaged and need to be remade.



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▲ Using large pictures on poster/banner.

Poster printing:

1. Contact the printing company early and allow enough time for printing;
2. Allow time for accuracy check of the printed posters and for reprinting if necessary.

4.2 Workshop

1. Compared with poster presentation, a workshop allows more participation of villagers. Venue arrangement, crowd control and event scheduling are important considerations;
2. Villagers should always be invited to demonstrate the acquired skills to consolidate what they have learnt.



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4.3 Drama/Performance/Game

1. The content should be clear, simple and relevant to the villagers' daily lives and the promotion themes;
2. The content and format of the activities should consult village stakeholders to ensure their support;
3. Ensure the drama script is well-written for the smooth running of the performance;
4. Interaction should be encouraged between performers and the audience;
5. Villagers should be invited to participate whenever possible;
6. Rehearse with the translators beforehand for their feedback.



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▲ After the workshop, villagers are invited to demonstrate the acquired skills again.

▲ Content should be relevant to villagers' daily lives and the promotion themes.

4.4 Small Group Discussion

1. When villagers' houses are sparsely located and gathering them in one place is difficult, small group discussion may be considered;
2. Small group discussions can be easily dominated by talkative villagers. It is therefore important to facilitate the participation of those who are relatively quiet;
3. If the topic involves sensitive issues, it is advisable to separate participants into male and female groups;
4. A group size of 6 to 8 people is usually recommended. It is not easy to ignite discussion when there are too few participants. Likewise, there would not be enough time for everyone to express their thoughts if there are too many people.



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▲ Small group discussion: balancing the chance of speaking among all participants

4.5 Souvenir

1. Souvenir is an effective means to reinforce a message;
2. If the quantity of souvenirs is large, enough time should be allowed for soliciting sponsorship, purchasing, and arranging delivery;
3. Educational information can be printed on the souvenirs, e.g. paper fan, cup and calendar;
4. Souvenirs should be of practical use;
5. Produce or purchase the souvenirs locally whenever possible for easy replacement in the future;
6. Sustainability should be an important consideration for the choice of souvenirs, e.g. a manual dynamo torch is more suitable for rural communities than a torch using battery.

Ensure souvenirs are of practical use. ►



5

Examples for Health Promotion Projects in Rural China

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- 5.2 Indoor Environment ————— 78
- 5.3 Waste Management ————— 88
- 5.4 Health Behaviour ————— 101
- 5.5 Disaster Risk-Related Preparedness ——— 129





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This Chapter will focus on five key public health issues and ways to conduct corresponding health promotion activities.

	Main Issue	Content	Intervention Type (example)	Page
5.1 Water and Health	Water Source Protection	<ul style="list-style-type: none"> • Livestock contamination prevention • Proper management of water storage tanks 	Drama & Poster	61
	Water Quality Management	<ul style="list-style-type: none"> • Issues with water boiling 	Drama	67
	Proper Hand Washing	<ul style="list-style-type: none"> • Importance of hand washing • When to wash hands • Steps of hand washing 	Workshop & Poster	71
	Oral Rehydration Solution (ORS)	<ul style="list-style-type: none"> • What is ORS and how to use it 	Workshop & Poster	76
5.2 Indoor Environment	Indoor Air Quality	<ul style="list-style-type: none"> • Health hazards of indoor cooking • Indoor air pollution and lifestyle habits 	Poster	79
	Human-livestock Separation	<ul style="list-style-type: none"> • Health hazards of keeping livestock at home • Livestock fencing 	Small Group Discussion & Poster	83

	Main Issue	Content	Intervention Type (example)	Page
5.3 Waste Management	Household Waste Treatment	<ul style="list-style-type: none"> Health impact of poor waste management and burning Waste separation 	Lesson & Poster	92
	Agricultural Pesticide	<ul style="list-style-type: none"> Labelling and storage of agricultural pesticide Usage and health guidelines of agricultural pesticide Proper disposal of pesticide waste 	Poster	97
5.4 Health Behaviour	Smoking	<ul style="list-style-type: none"> Health hazards of first-hand and second-hand smoke How to reduce the adverse effects of smoking to indoor air quality 	Drama & Poster	105
	Alcohol Drinking	<ul style="list-style-type: none"> Human health hazards of alcoholism How to reduce alcohol consumption 	Drama & Poster	110
	Knowledge and Prevention of Hypertension	<ul style="list-style-type: none"> What is hypertension Balanced diet 	Workshop & Poster	115
	Food Safety Management	<ul style="list-style-type: none"> Washing hands, vegetables and utensils Separating cooked from raw food Management of leftovers 	Poster	121

	Main Issue	Content	Intervention Type (example)	Page
	Tooth Brushing	<ul style="list-style-type: none"> The importance of tooth brushing Proper tooth brushing methods 	Lesson	125
5.5 Disaster Risk-Related Preparedness	Earthquake	<ul style="list-style-type: none"> Earthquake and response What to do if you are trapped under debris 	Poster	132
	Flooding	<ul style="list-style-type: none"> Flooding and response 	Poster	136
	Mudslide / Landslide	<ul style="list-style-type: none"> Mudslide / Landslide Escape from mudslide / landslide 	Poster	140
	Fire	<ul style="list-style-type: none"> Fire management What to do if clothes catch fire 	Poster	144
	Disaster Preparedness Kits	<ul style="list-style-type: none"> Why do we need disaster preparedness kits How to put together and use the disaster preparedness kits 	Poster	149

5.1 Water and Health

Water is a vital source of life and health. Water safety does not only involve water quality, but also depends on the sustainability and sufficiency of water supply. In China, water accessibility varies from region to region. For example, drought is common and rainfall patterns are erratic in the northern part of Gansu while the southern part of the province located along rivers with sufficient rainfall enjoys relatively adequate water supply. Health promotion should be adjusted accordingly, e.g. in regions with water scarcity, health education on controlling daily water usage and purifying rainwater is suitable; whereas in regions of plentiful water, health education should mainly focus on water source protection and other health habit-related issues such as hand-washing.

Focuses for Early Assessment Phase

- Sources of drinking water (reliability, cost and quality of water)
- Risk of water contamination
- Water accessibility and available quantity



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▲ There are regional differences in water supply.

- Pattern and habits of water utilisation, e.g. hand washing or water boiling before drinking
- Consulting local doctors or other medical professionals for the medical history and local management of diarrhoea and waterborne diseases

Relevant Public Health Principles

According to the minimum standards for water supply, sanitation and hygiene promotion outlined in the Sphere Handbook⁽²⁰⁾:

- **Water supply standard 1: Access and water quantity**
All villagers should have safe and



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▲ Villagers' source of drinking water

equitable access to a sufficient quantity of water for drinking, cooking and personal and domestic hygiene. Public water points are sufficiently close to households to fulfill their minimum water requirement.

- **Water supply standard 2: Water quality**
Water is palatable and of sufficient quality to be consumed and used for cooking and personal and domestic hygiene without posing great health risks.



- **Water supply standard 3: Water facilities**

Villagers have adequate facilities to collect and store water sufficient for drinking, cooking and personal hygiene. Of note, drinking water should be safe at the point of consumption.

In conclusion, drinking water should meet quality, quantity, accessibility, cost and reliability requirements.

5.1.1 Water Source Protection



▲ Measures are required to protect open water sources.

Current Problem

Most water sources in villages are open. Livestock, such as cows or horses, would usually drink from the same sources as villagers. Risk of contamination by animal faeces is high. As most bacteria and parasites in the water are invisible (e.g. *Trichuris trichiura* (whipworm), *Ancylostoma duodenale* (hookworm) and *Ascaris lumbricoides* (roundworm)), they may cause serious infectious diseases if ingested^[3]. Furthermore, unsafe hygiene habits of infected villagers may spread these diseases to healthy villagers, causing grave public health problems.

Health Education Interventions

1. Actions to protect open water sources (e.g. to prevent contamination by livestock).
2. Regular cleaning of buckets, ropes and water tanks to maintain hygiene and cleanliness.



▲ Equipment and containers at the water source should be cleaned regularly.

Purpose of the Interventions

Participants should gain awareness that drinking water may be contaminated through unfavourable practices in access, transportation, storage, and usage of water. Cleanliness of utensils for obtaining water should also be maintained.

[3] In China, the incidence of infectious diarrhoea (i.e. diarrhoea caused by different, acute or chronic, bacterial, viral, fungal, parasitic infections leading to gastroenteritis) has long been ranked as the most frequent among gastrointestinal infections^[21]. In 2005, diarrhoea contributed to 22.49% of all the communicable disease cases^[22,23].

Intervention Example: Drama & Poster

Time: 45 minutes

Materials: Photos (reservoir, livestock, bacteria, etc.), posters, two buckets (covered and uncovered)

Scene 1: At the village clinic

The child from a family (two adults and a child) falls sick. His parents bring him to see the village doctor. To find out what has gone wrong, the village doctor goes with his parents back to the well. (Remark: Invite village children to participate in the skit.)

Father: Doctor, my child is so sick that he cannot go to school nor get out of his bed. I'm so worried; please tell me what's wrong with him!

Doctor: Calm down sir, let me see. (To the child) What's wrong with you, boy? Where does it hurt?

Child: My stomach hurts a lot! (Cry)

Doctor: Let me see. Did you eat or drink anything special?

Mother: No, he didn't! He only drank water at home! What happened?

Doctor: Maybe something has gone wrong with the water source. Please bring me to it.

Scene 2: At the reservoir

There is livestock (photos/dolls) next to the reservoir (photo).

Mother: We get our water from this reservoir.

Doctor: From this place? No wonder! (Facing the audience) Tell me, what's wrong with this reservoir? (Invite some of the people to answer.)

Doctor: Do you notice that there are many animals next to the reservoir?

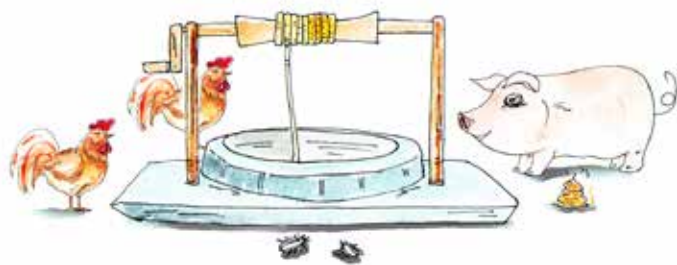
Father: It has always been like this; animals have to drink as well! If we put them here, we don't need to feed them. Is there any problem?

Doctor: Of course this is problematic. Look, (gesturing to Poster 1), the animals' excretions contaminate the water and attract pests. The water here is very dirty because there are a lot of germs inside. These germs may have caused your son's illness. Look, your son has turned sickly white, and he can't even go to school! Please remember this phrase: "Keep animals away to keep the water clean." Everyone, repeat after me, "Keep animals away to keep the water clean."

Father: Okay, I got it: don't let chicken or pigs get near the water source that we drink from, and our son won't get sick then.

Doctor: Wait. Is your home hazard free? Take me to have a look.

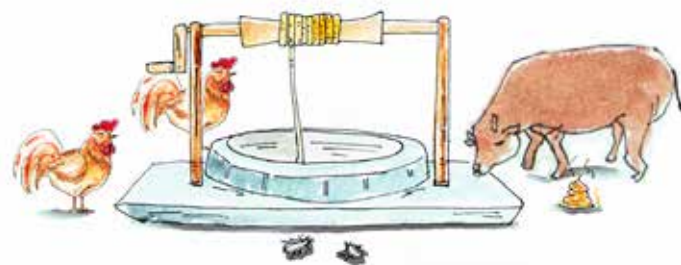




水源保清洁，勿让牲畜近



Poster 1-1: Keep the water source clean, keep livestock away.



水源保清洁，勿让牲畜近



Poster 1-2: (For Muslim areas) Keep the water source clean, keep livestock away.

Scene 3: At home

Two water tanks, one with a cover, and one without (Remark: Borrow water tanks at local villages as props, or stick photos on wooden planks.)

Mother: After I collect water, I keep it in these two water tanks. I have always been storing water this way. There shouldn't be any problem.

Doctor: These two? If you could choose, which one would you choose? (Audience vote) Look, everyone knows. The one without a cover won't work.

Mother: But it's placed indoors, so it should be fine with the ceiling covering above.

Doctor: Look inside, it's so dirty! (Ask a few children to point out what's inside.) [The one without a cover has stones, fallen leaves, and rat and insect models.]

Mother: Oh, I don't know it's so important to have the water tank covered. I will cover it now! [Throw out the things inside the tank. Then cover it.]

Doctor: So that's why: "Cover the water tanks to keep your water clean." (Everyone repeats twice.) However, merely covering the water tanks won't be enough.

Father: What else can we do?

Doctor: Think about it.

Father: I really can't think of anything else, how about you guys? (Ask the audience.)

Doctor: Actually there are some bacteria in the water, and they grow in water tanks to contaminate the water. If you drink it, you will get sick.



Poster 2: If water tanks are not well-covered, dirty things get in and you may get sick.



Scene 4: At home

[Facing the water tanks]

Child: But the water tanks seem clean. [He turns the water tanks over.]

Doctor: Look at this. [He takes out a photo from the tank showing water containing bacteria.]

Mother: Oh no! What should I do then?

Doctor: Don't worry, you only need to clean the water tanks regularly.

Mother: Regularly? How regular do I need to clean them?

Doctor: How often do you clean them? (Asks villagers: How often do you clean them? Raise your hand if you wash them once a month? Once half a year? Once a year?)

Child: I guess once a month?

Doctor: Right you are! (Touch the child's head.) You need to clean water tanks at least once a month to reduce bacteria inside, and you will get fewer abdomen pains. (Take out poster 3.) "Washing tanks monthly keeps doctors away."

Everyone: "Washing tanks monthly keeps doctors away."
(repeat twice)

Mother: Thanks Doc. I've really learnt a lot today.

Father: Yes, son, I won't allow animals to get near the water source anymore. ("Keep animals away to keep the water clean.")

Mother: And I will wash the water tanks once a month. ("Washing tanks monthly keeps doctors away.")

Child: I will also keep the water tanks covered! ("Cover the water tanks to keep your water clean.")

Father: Then we will not easily get abdomen pains!

Doctor: That's right.



洗呀洗水缸
每月洗出好健康



Poster 3: Washing tanks monthly keeps doctors away.

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Does the water source affect your health?
☐Yes ☐No ☐Don't know ☐Refused
2. Is the water source important for your health?
☐Yes ☐No ☐Don't know ☐Refused
3. Do animals getting near the water source easily cause water contamination?
☐Yes ☐No ☐Don't know ☐Refused
4. Do water storage tanks need to be covered?
☐Yes ☐No ☐Don't know ☐Refused
5. How often should a water storage tank be cleaned?
☐Once per month ☐Once per year ☐Don't know ☐Refused
6. If the water storage tank is not regularly cleaned, people will suffer from diarrhoea after drinking water from this tank.
☐Agree ☐Disagree ☐Don't know ☐Refused
7. I clean the household water storage tanks and their covers regularly.
☐Agree ☐Disagree ☐Don't know ☐Refused

Post-intervention questionnaire

1. Was the workshop meaningful to you?
☐Yes ☐No ☐Don't know ☐Refused
2. Did you understand the messages conveyed?
☐Yes ☐No ☐Don't know ☐Refused
3. Did the health worker(s) deliver the messages clearly?
☐Yes ☐No ☐Don't know ☐Refused
4. Does the water source affect your health?
☐Yes ☐No ☐Don't know ☐Refused
5. Is the water source important for your health?
☐Yes ☐No ☐Don't know ☐Refused
6. Do animals getting near the water source easily cause water contamination?
☐Yes ☐No ☐Don't know ☐Refused
7. Do water storage tanks need to be covered?
☐Yes ☐No ☐Don't know ☐Refused
8. How often should a water storage tank be cleaned?
☐Once per month ☐Once per year ☐Don't know ☐Refused
9. If the water storage tank is not regularly cleaned, people will suffer from diarrhoea after drinking water from this tank.
☐Agree ☐Disagree ☐Don't know ☐Refused
10. I will clean the household water storage tanks and their covers regularly.
☐Agree ☐Disagree ☐Don't know ☐Refused
11. Please list the topics/areas that you would like to know more for the future health workshops.



5.1.2 Water Quality Management

Current Problem

For generations, villagers believe local water sources are clean and drinkable without boiling. In summer, they drink directly from the river, which is cooler than drinking boiled water. However, with modernisation and lifestyle change, although water looks clean, it may actually contain harmful substances like *Escherichia coli*. Following the increased fertiliser use, a lot of unabsorbed nitrogen and phosphorous will be fused with rain and river and absorbed by soil, which may indirectly contaminate underground water sources. Moreover, villages often lack the basic sewage and water treatment facilities, and thus, water sources are easily contaminated by detergent, faeces and rubbish. Boiling water can destroy most waterborne pathogens, kill most insect eggs, and lower the toxicity of chemical waste; therefore boiling water is the key to maintain a healthy lifestyle^[24].

Health Education Intervention

Avoid drinking directly from water sources, even if it appears clean. Always boil water before drinking.

Purpose of the Intervention

Through these health promotion activities, participants can learn about the detrimental effects of drinking unboiled water.



▲ *Escherichia coli* may exceed the limits, even though the water source may appear to be well-protected.

Intervention Example: Drama

Time: 30 minutes

Materials: Props (field, tree, cloth, water, salty water), photos (e.g. bacteria)

One day, Xiaoming was reaping crops in his fields and the sun was especially hot. After working for two hours, he drank all his water, but he didn't want to go home to get water. Suddenly, he found a large piece of cloth near the farm, and in it was some rain water. The water seemed clean, so he drank from it by using his bottle to scoop up the water.

However, the water was bitter and salty, so he drank a few mouthfuls and stopped drinking. After he finished with his fieldwork, Xiaoming began journeying home.

On the way, he began to experience stomachaches, so he stopped to rest. After the pain subsided, he immediately went home but did not feel better. He was throwing up and experiencing diarrhoea, and he was in a state of dehydration. As the situation looked serious, the villagers decided to send him to the local hospital.

The few hours of the bumpy car ride journey to the hospital made Xiaoming feel worse. The doctors found him in a very poor state, and immediately put him on a drip to keep him hydrated. The doctor asked him what he had eaten and



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▲ Boiling water before use is an important principle for protecting health.





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what he had done, and Xiaoming answered, "I didn't do anything different, but I drank some uncovered water from the field yesterday. The water looked clear and clean! But it tasted bitter and salty, so I drank a few mouthfuls only and stopped. The water I drank is still in the bottle."

The doctor took water sample for laboratory examination and found exceeding levels of bacteria and viruses, which may have caused Xiaoming's stomachache and gastroenteritis.

We should not drink directly from the source. Even if the water looks clean, it may still contain bacteria and viruses. Drinking boiled water can lower the risk of getting sick. I'm sure Xiaoming would agree!

▲ High bacterial level in unboiled water

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|--|
| <p>1. Does the water source affect your health?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Is the water source important for your health?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> | <p>3. Water can be drunk without boiling if it looks clean.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>4. I always drink boiled water.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> |
|--|--|

Post-intervention questionnaire

- | | |
|---|---|
| <p>1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>4. Does the water source affect your health?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>5. Is the water source important for your health?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> | <p>6. Water can be drunk without boiling if it looks clean.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>7. I will drink boiled water.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>8. Please list the topics/areas that you would like to know more for the future health workshops.</p> |
|---|---|



5.1.3 Proper Hand Washing



▲ Correct way of hand washing

Current Problem

We use our hands in most daily activities and they are the main channel through which infectious diseases spread^[25]. If we do not wash our hands before eating and after toilet use, contaminated food will cause abdominal pain and diarrhoea. Although helping villagers develop good hand hygiene is important, we must also consider the context and the limitations of resources and facilities in rural areas. In principle, we should avoid wasting scarce water resources. When teaching children to wash their

hands before eating, we may consider teaching the use of utensils such as chopsticks and not their hands to eat, if the area faces severe water constraints.

Health Education Intervention

- The importance of proper hand washing
- Key principles of hand washing: Wash hands before eating and after going to the toilet, coughing, sneezing and coming into contact with animals
- Proper hand washing steps

Purpose of the Intervention

Through these promotion activities, participants learn about the association of hand washing with health:

- Learn more about why, when and how to wash hands properly.

Intervention Example: Workshop & Poster

Time: 40 minutes

Materials: Chalk, "Handwashing-in-five-steps" poster, A4-sized cards & soap

Flow

1. Why do we have to wash our hands (10 min)

- If our hands are not clean, dirt can easily get into our bodies, which may cause coughing, fever, vomiting, diarrhoea, etc.
- We can use some simple posters, stories or games to illustrate how bacteria are spread. For example, we can use chalk to draw on villagers' hands to represent hands being dirtied, and ask them to shake hands with other participants. The chalk would pass onto other people's hands after hand-shaking, which illustrates how dirty things can be spread easily.



Poster 4: Fall sick if hands not washed.

2. When do we need to wash our hands (10 min)

- To prevent diseases caused by bacteria, the best way is to wash hands with clean water and soap before and after eating.
- When we eat, our hands may touch our food. Since many common types of respiratory bacteria are spread through saliva and air, we should cover

our mouths and noses when we cough or sneeze, and wash hands immediately afterwards. Otherwise germs can spread easily to those around us.

- Bacteria and germs are present in our excretions, and the toilet is thus home of different germs. Thus, after going to toilet, we must wash our hands.



请注意，要洗手。



Poster 5-1: Occasions requiring hand washing



- Likewise, various bacteria and germs can be found on animals, therefore after we touch them we have to clean our hands immediately.



请注意，要洗手。



Poster 5-2: (For Muslim areas) Occasions requiring hand washing

3. How to wash hands

- Poster 6 demonstrates the five proper hand washing steps. If the situation allows, the best way is to show these steps using water and soap. But if the area suffers from water scarcity, demonstration using bare hands is also acceptable.
- Enough facilitators are needed to help and teach each participant how to wash their hands in correct ways.
- Demonstrators can invite participants to show the group how to do it.

4. Conclusion and evaluation

- Know how much each participant understands the new knowledge through question and answer sessions.
- Repeat slogans with participants, and practise washing hands together.
- If these activities take place in schools, posters can be put up near school toilets or classrooms.

- If they take place in villages, these posters can be stuck in the village committee office or promotion board to remind people to wash their hands frequently and correctly.

Handwashing song for reference

"Let's wash hands": <http://www.youtube.com/watch?v=oDsc05v4sfc>

洗手五步曲



1



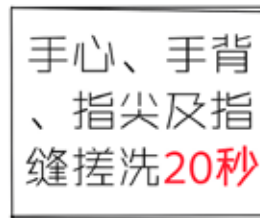
2



3



4



手心、手背、指尖及指缝搓洗**20秒**



5

时常洗洗手
健康才永久



请洗手!



Poster 6: Hand washing in five steps

Poster 7: Frequent hand washing, Long lasting health.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|---|---|
| 1. Is hand hygiene related to your personal well-being?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 5. Do you wash your hands before eating?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Is hand washing important?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. Do you wash your hands after toilet use?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Do you have sufficient water supply for hand washing?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 7. Do you wash your hands after contacting livestock or
their faeces?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 4. Can dirty hands cause stomachache, diarrhoea or
parasitic disease?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |

Post-intervention questionnaire

- | | |
|--|---|
| 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. Can dirty hands cause stomachache, diarrhoea or
parasitic disease?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 7. Do you wash your hands before eating?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 8. Do you wash your hands after toilet use?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 4. Is hand hygiene related to your personal well-being?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 9. Do you wash your hands after contacting livestock or
their faeces?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 5. Is hand washing important?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 10. Please list the topics/areas that you would like to know
more for the future health workshops. |

5.1.4 Oral Rehydration Solution^[4] (ORS)

Current Situation

Acute diarrhoea is one of the leading causes of mortality among infants and young children in developing countries. According to recent studies in 2014, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) estimated that diarrhoea was responsible for up to 4 million deaths annually⁽²⁶⁾. In most cases, death is caused by dehydration after consuming contaminated water, and children living in less developed areas are 15 times more likely to get diarrhoea compared to those living in cities. Unfortunately, among the affected children, only 37.9% of them received medical attention, while 15.1% of them received no treatment at all. Dehydration from diarrhoea can be prevented or treated simply and effectively by increasing fluid intake and using ORS.

Health Education Intervention

ORS keeps patients hydrated. Patients are required to consume a pre-mixed solution mainly containing glucose and the necessary electrolytes in an appropriate feeding practice. ORS has been shown by UNICEF and WHO to be an effective way to reduce diarrhoea-related mortality by 75% and prevent other complications irrespective of cause or age group affected. Home-made ORS (1L water + 6 teaspoons of sugar + 0.5 teaspoon of salt) is a simple and convenient alternative⁽²⁷⁾.

Purpose of the Intervention

Participants should obtain the following knowledge and skills after the intervention.

1. Understand ORS is a simple and effective way to treat dehydration caused by diarrhoea
2. Remember formula and practice of preparing ORS
3. Understand the regimen of ORS for different population subgroups (e.g. children)



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▲ A villager demonstrates how to prepare ORS.

[4] Oral Rehydration Solution (ORS) is the formula recommended by the WHO for treating acute diarrhoea. The ratio for preparing home-made ORS is one litre of water to six teaspoons of sugar and half a teaspoon of salt.



Intervention Example: Workshop & poster

Time: 45 minutes

Materials: Water, sugar, salt, teaspoons, 1L water bottles or containers, posters

Flow

Assess the knowledge level of basic information on ORS before intervention by administering pre-intervention questionnaires.

1. Oral Rehydration Solution (ORS) and its importance (10 mins)

- Excessive diarrhoea and vomiting may result in physical dehydration. In serious cases, it can be life threatening. Therefore, we should prevent dehydration by replenishing our body fluids.
- ORS is an effective rehydration treatment, and it can be made easily at home.

2. How to prepare ORS at home and its regimen (25 mins)

- ORS formula: 1L boiled or distilled



Poster 8: Rehydration by ORS

water + 6 teaspoons of sugar + 0.5 teaspoon of salt.

- If circumstances allow, we can divide the participants into small groups; encourage each individual to practise preparing ORS with guidance. Individual practice is difficult when there are many participants. In this case, health workers can demonstrate on stage and deliver the knowledge and skills to the audience.
- How much to take:
For children: 250mL (1 glass) each time, 6 times per day until

怎样在家调制口服补液盐?



Poster 9: How to prepare home-made ORS

diarrhoea ceases;
For adult: 500mL (2 glasses) each time, 6 times per day until diarrhoea ceases.

3. Conclusion and evaluation (10 mins)

- Recap the key points of this intervention and allow time for a question and answer section.
- Assess the participants' understanding of ORS by administering post-intervention questionnaires.

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|---|---|
| <p>1. Do you know the symptoms of dehydration?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Have you ever heard of Oral Rehydration Solution?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>3. Do you think Oral Rehydration Solution can relieve the symptoms of severe diarrhoea?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>4. Is it difficult to prepare Oral Rehydration Solution?</p> | <p><input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>5. Do you know how to prepare Oral Rehydration Solution?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>6. Do you prepare Oral Rehydration Solution when you have severe diarrhoea?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> |
|---|---|

Post-intervention questionnaire

- | | |
|---|---|
| <p>1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>4. Do you know the symptoms of dehydration?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>5. Have you ever heard of Oral Rehydration Solution?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>6. Do you think Oral Rehydration Solution can relieve the symptoms after severe diarrhoea?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> | <p>7. Is it difficult to prepare Oral Rehydration Solution?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>Regarding the ORS formula:
1L ORS requires: ____ cups of water, ____ teaspoons of salt, ____ teaspoons of sugar</p> <p>8. Does this workshop effectively enhance your understanding towards ORS?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>9. After joining this workshop, will you prepare ORS at home when you have severe diarrhoea?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>10. Please list the topics/areas that you would like to know more about for the future health workshops.</p> |
|---|---|



5.2 Indoor Environment



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▲ Indoor environment of a rural village household

Current Problems

Indoor environmental condition has substantial impacts on health, e.g. improper installation of wiring in some households increasing fire hazard, the keeping of livestock indoors increasing the chance of disease spread, the burning of inappropriate material indoors exacerbating allergies and smoking indoors increasing the risks of second-hand-smoke-related health issues.

Health Education Intervention

When designing activities in remote areas, the following must be noted:

- Basic living conditions (such as structure of houses)
- Location of the kitchen and cooking fuel storage
- Household ventilation system
- Household fire prevention facilities
- Whether there are smokers in a household
- Household heating and fuel system
- If livestock and humans live within the same compound
 1. Whether livestock is kept separately from the living quarters
 2. Whether livestock is separated from the rest of the living quarters with a fence

5.2.1 Indoor Air Quality

Current Problems

In rural China, people usually use a stove or a simple furnace to cook or to provide heating, using wood, faeces, coal, charcoal or crop waste as fuel. Unrefined fuels have low combustion efficiency and will emit large quantities of pollutants which will cause harm to human health^(28,29). Long-term exposure to indoor smoke will greatly increase the risk of developing respiratory diseases for villagers.

Study found that women with prolonged exposure to cooking fumes are 4.1 times more likely to suffer from lung cancer than ordinary people⁽³⁰⁾. The lack of indoor ventilation will lead to accumulation of indoor pollutants and cause a variety of symptoms, such as headaches, dizziness and fatigue. It may also aggravate diseases such as asthma, pneumonia, bronchitis or lung cancer. Although our projects may not be geared to improve the cooking environment, raising the awareness about health care problems will also be important.

Health Education Intervention

1. Improve stoves or fuels, in an attempt to raise combustion efficiency and reduce discharge of hazardous substance
2. Improve indoor ventilation to enhance fume discharge
3. Prevent indoor burning of waste (refer to 5.3.1 for household waste treatment)
4. Avoid indoor smoking (refer to 5.4.2 Smoking)

Purpose of the Intervention

Through these health promotion activities, participants can gain an understanding of:

1. The potential source of indoor air pollution
2. Health impact of indoor air pollution
3. The means to lifestyle changes to reduce indoor pollution



▲ In rural areas, people usually burn wood on fiery pit indoors.

Intervention Example: Poster

Time: 30 minutes

Part 1: The detrimental effect of cooking fumes (10 mins)

In villages, women often have to cook, and being the caretaker of children, they carry their children on their back. Thus, women and children are often exposed to cooking fumes. Long-term exposure to this environment will increase women's chance of contracting chronic obstructive pulmonary disease, and children may easily develop respiratory diseases. If pregnant women are



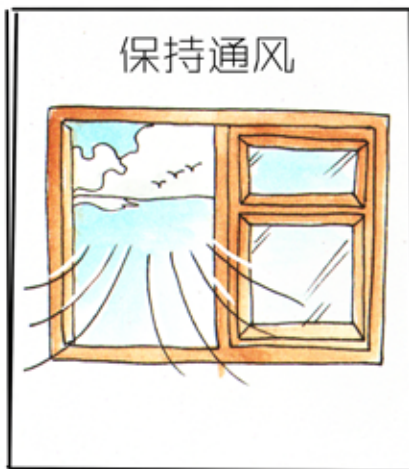


Poster 10: Cooking fume

exposed to copious amounts of fumes without proper treatment, babies may be born underweight and unhealthy⁽³¹⁾.

Part 2: Keeping warm and maintaining ventilation (10 mins)

When stoves are used to keep warm, windows and doors are usually closed. However, incomplete combustion may create carbon monoxide, a kind of colourless, odourless toxic



Poster 11: Maintain good ventilation.

fume. If the percentage of carbon monoxide reaches a certain level, people may fall unconscious, or even die. Therefore, lack of ventilation in a room is very dangerous, and doors and windows need to be opened to improve ventilation.

Part 3: Change of lifestyle to reduce pollution (10 mins)

- Reduce using smoking as a way of cooking.



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▲ Smoking as a cooking method should be avoided.

- Avoid high cooking temperature.
- The kitchen should be separated from other rooms.
- Use less polluting fuel (such as corn, briquette and charcoal).
- Avoid indoor waste burning.
- Avoid indoor smoking.

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Indoor ventilation is important for our health.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. Poor indoor ventilation and long-term exposure to indoor smoke may cause serious diseases, or even death.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. Pregnant women exposed to large amounts of indoor smoke daily may have a higher risk of delivering small and underdeveloped babies.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused | <ol style="list-style-type: none"> 4. When oil temperature becomes too high during cooking, more smoke will be produced.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. Opening windows or doors can improve indoor ventilation.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. Cooking or heating with a stove should not be carried out when the windows or doors are closed.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused |
|--|--|

Post-intervention questionnaire

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 4. Indoor ventilation is important for our health.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. Poor indoor ventilation and long-term exposure to indoor smoke may cause serious diseases, or even death.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. Pregnant women exposed to large amounts of indoor smoke daily may have a higher risk of delivering small | <p>and underdeveloped babies.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <ol style="list-style-type: none"> 7. When oil temperature becomes too high during cooking, more smoke will be produced.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 8. Opening windows or doors can improve indoor ventilation.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 9. Cooking or heating with a stove should not be carried out when the windows or doors are closed.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 10. Please list the topics/areas that you would like to know more about for the future health workshops. |
|--|--|



5.2.2 Human-livestock Separation

Current Problems

Human and livestock cohabitation is common in rural areas. Worsened by poor hygiene conditions, increased contact between humans and livestock makes humans more vulnerable to zoonotic diseases. Apart from infections by roundworms, hookworms and tapeworms, outbreak of bird flu in recent years was also caused by frequent contact with animals. Nevertheless, most villagers do not realise the disease transmission risks and adverse health effects of human-livestock cohabitation, including respiratory infection through and allergies to the dust raised by livestock, and food poisoning and gastrointestinal diseases caused by contacting animal faeces. In severe cases, villagers may even be infected with emerging infectious diseases.

Health Education Intervention

While livestock keeping is often one of the main sources of income for rural households, evidence indicates that simple measures including human and livestock separation as well as raising local hygiene standards can effectively lower the risk of communicable disease outbreak, thus greatly improve villagers' health status⁽³²⁾.

Purpose of the Intervention

Participants can learn about the negative impacts of zoonotic living and the possible solutions, such as simple fencing, through these health promotion activities.



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▲ In rural settings, households' pigsties often locate near the toilet.

Intervention Example: Small Group Discussion & Poster

Time: 30 minutes

Materials: Adhesive tapes, photos

(remark: adjust the content with reference to
the local religious and daily practices)



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1. **Why do you need to separate animals and humans?**

First show everyone some photos, which include different kinds of animals living in the house. There are a lot of faeces and a little girl is having her dinner. Discuss what is wrong in this photo. Based on the reactions of the participants, stick the following statements on the board: "Animals go in and out of home freely", "Animals excrete at home", "The little girl can easily touch the animal excretions", "Flies fly from the faeces to the food on the table, making it dirty", and "The little girl may get sick easily".

▲ Simple human-livestock separation measures can protect people's health.



对于小妹妹的健康有什么问题？

1. 牲畜在家中自由出入
2. 牲畜在家中排泄
3. 小妹妹容易接触到牲畜的排泄物
4. 苍蝇从粪便飞到桌上的食物，弄脏食物
5. 小妹妹容易生病



对于小妹妹的健康有什么问题？

1. 牲畜在家中自由出入
2. 牲畜在家中排泄
3. 小妹妹容易接触到牲畜的排泄物
4. 苍蝇从粪便飞到桌上的食物，弄脏食物
5. 小妹妹容易生病



Poster 12-1: What are the health risks posed to the girl?

Poster 12-2: (For Muslim areas) What are the health risks posed to the girl?

2. Faecal-oral transmission route

To tackle the issue of germ spreading, illustrate the path of the spread (see 5.1 water and health), and let everyone discuss how to solve the problem.

3. Ways to separate animals and humans

One of the best solutions to separate humans from livestock is building separate units for the animals to practise centralised animal waste treatment so that the little girl will not be infected easily.

Facilitators should guide participants to discuss the following three points:

1. Feasible ways to manage animals' excreta
2. Potential implementation issues
3. Possible solutions for the issues raised

Note:

When promoting the concept of human-livestock separation, the related section on Oral Rehydration Solution (ORS) can also be incorporated to highlight the simple method to treat diarrhoea.



Poster 13: Faecal-oral transmission route



牲畜都在家外，与人分隔开

小妹妹现在可以在洁净的环境里吃饭

小妹妹从此可以健康的成长

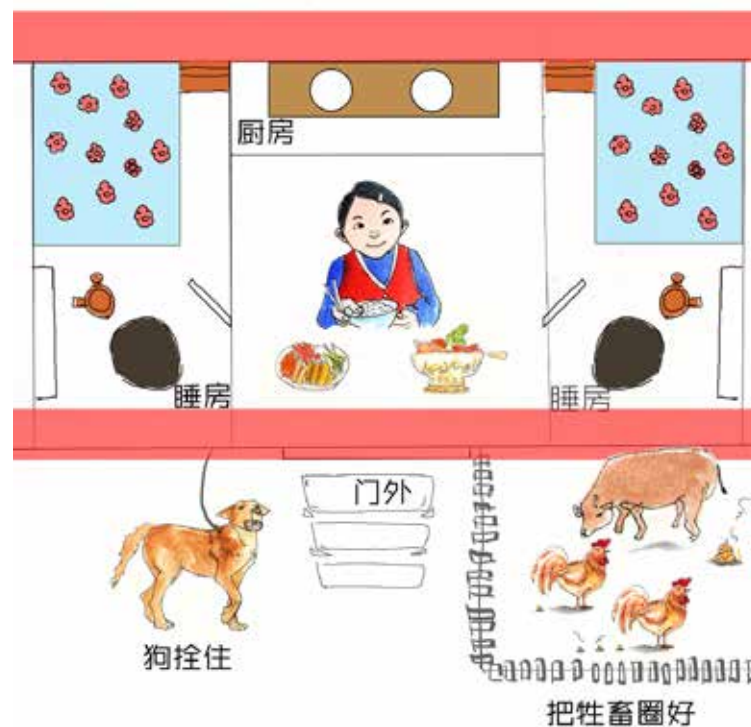


Poster 14-1: Livestock are kept outside the house and separated from humans.

牲畜都在家外，与人分隔开

小妹妹现在可以在洁净的环境里吃饭

小妹妹从此可以健康的成长



Poster 14-2: (For Muslim areas) Livestock are kept outside the house and separated from humans.

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Livestock's faeces affect your health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 2. Livestock's faeces contain lots of bacteria.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 3. Livestock's faeces left freely in the house may contaminate food through bacteria-carrying flies.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | <ol style="list-style-type: none"> 4. One may get sick easily after eating contaminated food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 5. Setting up stand-alone livestock area and centralising animal waste treatment outside the house can reduce contamination.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
|--|--|

Post-intervention questionnaire

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 4. Livestock's faeces affect your health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 5. Livestock's faeces contain lots of bacteria.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 6. Livestock's faeces left freely in the house may contaminate food through bacteria-carrying flies.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | <ol style="list-style-type: none"> 7. One may get sick easily after eating contaminated food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 8. Setting up stand-alone livestock area and centralising animal waste treatment outside the house can reduce contamination.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 9. Please list the topics/areas that you would like to know more for the future health promotional workshops. |
|---|---|



5.3 Waste Management

Health promotion concerning waste management aims at minimising the direct health impact of littering and indoor and outdoor waste burning. In rural areas, some villages are located far from the main roads. Even if there is any centralised waste collection point, it is hard to transport waste to dumpsters nearby. To practically tackle this issue, infrastructure building and policy support in the middle- and long-term are required. For instance, building centralised landfills or incinerators cannot be achieved in the short run. Yet, health promotion targets the problem at the source: allowing villagers to understand the relationship between waste disposal and the associated health consequences, raising their awareness of its importance and changing their habits by reducing littering and indoor waste burning.

Health Education Intervention

- Current status of waste management
- Villagers' waste disposal habits (e.g. discarding, burning, and recycling)
- Correct methods of handling harmful waste (e.g. pesticide bottles and syringes)
- Waste disposal mechanism and opportunities in the villages



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▲ Waste burning

Three important public health principles on waste management

The 3R (Reduce, Reuse and Recycle) concept⁽³³⁾ is the current international principle on waste management. In general, it is defined as follows:

Reduce: It refers to a reduction in waste volume at source. Currently, many countries carry out projects to minimise waste production, including regulating over-packaging, limiting private sector waste disposal and introducing waste charging schemes. At household and individual levels, one should reduce buying or storing unnecessary items.

Reuse: It aims at conserving resources, thus reducing the waste volume.

Recycle: It is a process that utilises the useful components of waste and turns them into second resource through waste management planning. Only waste that is separated into its components can be further recycled. Not only does recycling reduce waste production, it also promotes reuse of useful materials and reduces equipment and facilities required for waste management.

◀ Waste separation in the village



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5.3.1 Household Waste Treatment



▲ Waste by the roadside

Current Problems

Household waste treatment in villages is an important health issue. Litter by the roadside is common in rural villages and can bring the harmful consequences below:

- **Environmental impact**
The decomposition of waste can release noxious odours, pollute the air, breed rats, mosquitoes and

other pests, and increase the disease transmission risks. Moreover, many villagers unload their waste by the riverside, hoping that the river water can flush away the waste. However, this will lead to water source contamination by the toxic waste.

- **Health impact**
Littering may directly hurt villagers if they step on glass debris or sharp objects whereas water source contamination by heavy metal or toxic substances contained in the waste may indirectly and adversely affect their health.



▲ Littering pollutes the water source.



produces a large amount of inhalable particulate matter and increases villagers' risk of respiratory tract infections, asthma and other respiratory diseases. Outdoor burning does not only create similar problems, but the waste ashes it generates may carry heavy metal to contaminate water sources.

Health Education Intervention

1. Through explaining the health risks of littering, villagers are encouraged to put their waste in waste bins (in case of no waste bin, cartons and basins may be used).
2. Through explaining the dangers related to indoor waste burning, villagers are encouraged to bury or burn them outdoors in areas reasonably far away from houses and water sources.

Purpose of the Intervention

Through these health promotion activities, participants can understand the environmental and health impact of littering and waste burning, and understand how to sort waste in a simple way.

▲ Encourage waste bin use and enable recycling practices.

More often than not, villagers do not have the resource to collect and send all waste out for proper treatment. They are confronted with the waste heap problem and have no choice but to burn their waste. Burning reduces the original waste volume by 90%. Waste is sometimes burned indoors with other fuel for heating. Since the majority of waste nowadays is plastic-made (e.g. food packaging), burning may release noxious fumes, such as dioxins and polycyclic aromatic hydrocarbons, which are recognised carcinogens⁽³⁴⁾. Furthermore, waste burning



Intervention Example: Lesson & Poster

Time: 60 minutes

Materials: Posters, props (e.g. disposed cans, plastic and glass bottles, stainless steel box, plastic bags, paper box, calendar paper, battery or worn-out clothes)

Part 1: Impact of littering (20 mins)

Key message: Raising villagers' awareness of the issues of littering

- Ask with a question:
 1. Has anyone ever littered? (Please raise hands.)
 2. When we look around, do we see any litter on the ground?
- Littering causes environmental health problems because -
 1. Smoke ashes found in the waste contain arsenic that can enter and pollute soil and water;
 2. Waste itself attracts pests and breeds bacteria.
- What is worse is that -
 1. When broken glasses or other items with sharp edges are littered, villagers can easily get hurt and catch tetanus (remark: explain what tetanus is);
 2. Livestock or animals may swallow the waste (e.g. plastic bags) and die of suffocation.
- Waste separation and treatment are equally important in addition to no littering.

乱丢垃圾的影响

对环境的影响:



垃圾的有害物质可渗入泥土或水中，造成污染，影响农作物生长。



影响景观，害虫滋生，破坏环境卫生。



当野生动物误食垃圾如胶袋为食物时，它们可能会因而窒息致死。

对人的影响:



玻璃碎片或其他尖锐的物品一旦随处乱丢，可导致他人受伤，甚至感染破伤风。



垃圾焚烧，会释放有害物质到空气中，对健康造成危害。



堆放在路边、河边的垃圾，会释放有害物质，污染河水和土壤，影响土地质量和人体健康。

Poster 15: The negative impacts of littering

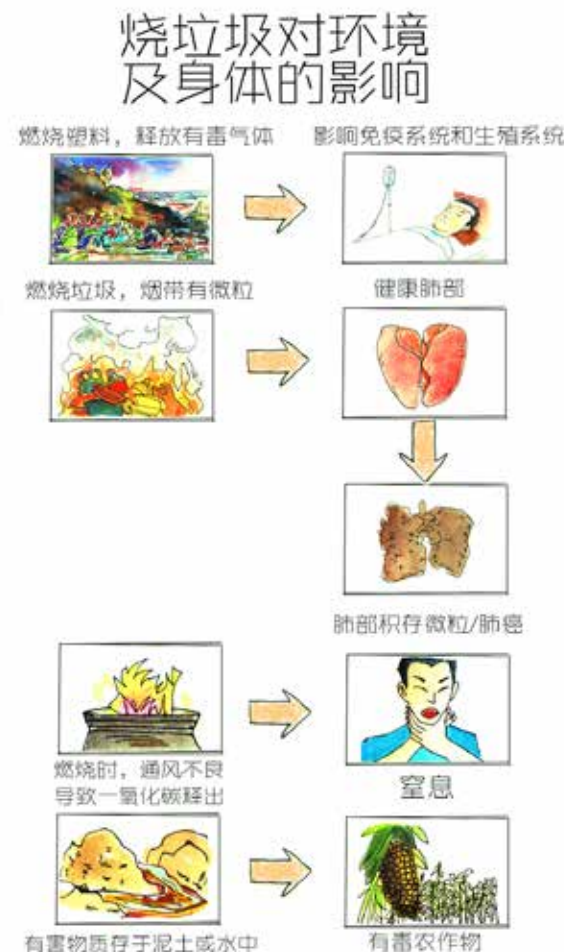
Part 2: Impacts of waste burning on environment and human health (20 mins)

Key message: Some forms of waste should not be burnt

- Ask with a question:
Has anyone burned their waste at or outside their houses? What kind of waste was it? (Please raise hands)
- Did the burning of waste smell? Did you feel any discomfort after smelling it?

Highlight of the message theme: Not all forms of waste are suitable for burning and waste burning has negative impacts on both environment and physical health.

- Burning waste is harmful to health because toxic substances may be released upon burning.⁽³⁴⁾ Examples are:
 1. Dioxin: Entry into the body through inhalation can make people (especially children and the elderly) sick. Dioxin also affects other parts of the body, e.g. causing damages to nervous, endocrine and reproductive systems.
 2. Benzopyrene: Carcinogenic, likely to cause lung cancer.
 3. Visible smoke: Smoke is comprised of tiny particles and could be inhaled into the lung. Prolonged inhalation of such particles may increase the chance of respiratory tract infection, asthma, rapid breathing and chest pain.



Poster 16: Impacts of waste burning on environment and health



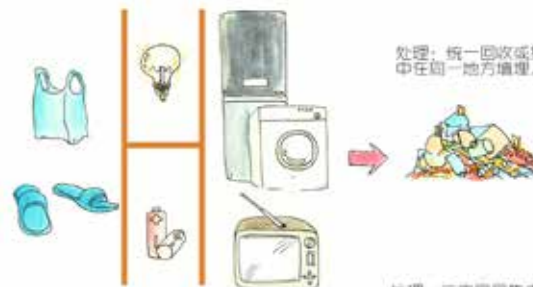
4. Carbon monoxide: In places where oxygen is inadequate or ventilation is poor (e.g. indoor environment with all windows closed or enclosed areas), burning of waste releases carbon monoxide. Inhalation of this chemical lowers the oxygen-carrying capacity of haemoglobin, which should be particularly damaging for children (whose lungs have not fully developed), the elderly and those who have cardiopulmonary diseases.

Part 3: Waste separation (15 min)

- Ask with a question:
What kinds of waste does your family normally produce? (Please raise hands and give examples)
Do you have a habit of separating the waste or have you heard of waste separation? (Please raise hands)

垃圾的分类

不可燃烧的垃圾:



可燃的垃圾:



厨余:

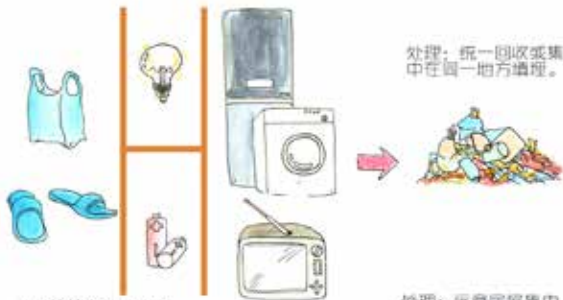


Poster 17-1: Waste separation

- Waste has to be separated into different categories, which have different treatment methods. Improper handling of waste can harm environment and human health. For instance, there are three general categories of waste:

垃圾的分类

不可燃烧的垃圾:



可燃烧的垃圾:



厨余:



- Waste that is not suitable for burning
- Waste that can be burnt
- Waste that can be recycled

Separation can help us handle waste effectively:

- Food waste → livestock feeding
- Waste that is not suitable for burning → centralised collection or burial

Reiteration of the key messages

Ask with a question: Do you still remember the 3 important messages today?

- Littering causes damages to the environment and harms the health of humans and animals.
- Not every form of waste can be handled by burning. For instance, burning some substance (e.g. plastics) may have very negative impact on human and environmental health. Even for waste suitable for burning, the burning place should be specified and centralised (e.g. far from houses and livestock) to minimise the negative impact of waste burning.
- Separation of waste is important as different types of waste need to be handled in different ways. It can be harmful to environment and health if burning is not properly handled.

Note:

The principles of waste management include reduction, reuse and recycling. This chapter emphasises the promotion of the recycling concept. Vector control is associated with waste management as littering raises the issue of breeding pests. If waste is properly managed, vector can be effectively controlled. Environmental pollution is also closely linked with waste management. If time allows, further explain the benefits of proper waste management, including the long-term improvement of the quality of water and soil, and the subsequent reservation of the environment.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Does waste burning affect your health?
☐Yes ☐No ☐Don't know ☐Refused
2. Does the waste burning location matter?
☐Yes ☐No ☐Don't know ☐Refused
3. Are all types of waste suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
4. Is paper suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
5. Are plastic bags suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
6. Are clothes suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
7. Is food waste suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
8. Are batteries suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
9. Is there any difference in the health impact of indoor and outdoor waste burning?
☐Yes ☐No ☐Don't know ☐Refused
10. Are you confident that you can properly burn waste?
☐Yes ☐No ☐Don't know ☐Refused

Post-intervention questionnaire

1. Was the workshop meaningful to you?
☐Yes ☐No ☐Don't know ☐Refused
2. Did you understand the messages conveyed?
☐Yes ☐No ☐Don't know ☐Refused
3. Did the health worker(s) deliver the messages clearly?
☐Yes ☐No ☐Don't know ☐Refused
4. Does waste burning affect your health?
☐Yes ☐No ☐Don't know ☐Refused
5. Does the waste burning location matter?
☐Yes ☐No ☐Don't know ☐Refused
6. Are all types of waste suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
7. Is paper suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
8. Are plastic bags suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
9. Are clothes suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
10. Is food waste suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
11. Are batteries suitable for burning?
☐Yes ☐No ☐Don't know ☐Refused
12. Is there any difference in the health impact of indoor and outdoor waste burning?
☐Yes ☐No ☐Don't know ☐Refused
13. Are you confident that you can properly burn waste?
☐Yes ☐No ☐Don't know ☐Refused
14. Please list the topics/areas that you would like to know more for the future health promotional workshops.

5.3.2 Agricultural Pesticide



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▲ The team teaches students the potential harms associated with inappropriate pesticide use.

Current Problems

Apart from household waste, pesticide waste is common in rural areas. Pesticides are widely used in agricultural systems, so pesticide poisoning^[5] is not uncommon. According to statistics, there were about 100,000 cases of pesticide poisoning in China from 1997 to 2003, where non-industrial poisoning (including poisoning by accident and suicide) accounted for about 74.1%^[35]. In addition to direct poisoning, discarded pesticide waste also brings environmental and health risks, and damages the quality of soil and water source.

Health Education Intervention

1. Pesticide packages usually carry toxicity signs and instructions for storage.
2. Pesticide packaging and containers can be buried in a landfill or recycled after use and should not be discarded in fields or nearby rivers.

Purpose of the Intervention

Through these health promotion activities, villagers can pay heed to the proper ways to use and store pesticides, and discard the packages properly after use.

Intervention Example: Poster

Time: 30 minutes

Part 1: Importance of handling bottles of pesticide (10 mins)

- Introduce cases of child pesticide poisoning and water source pollution by pesticide bottle littering in the news to illustrate the importance of safe storage and disposal of pesticide bottles.

[5] The common symptoms of mild pesticide poisoning include headache, dizziness, nausea, fatigue and stomachache; whereas severe poisoning may cause muscle spasms, breathing difficulty, coma, incontinence or even death. Therefore, pesticides that are highly toxic or labelled as such should be stored and used in strict accordance with the recommendations on the labels^[35].



农药，杀虫剂等需要用特殊标志



Poster 18: There should be specific labels for pesticides and insecticides.

- Remind parents to teach their children the harms of pesticide. If the target audience are children, inform them directly the potential dangers of pesticide.
- In addition, the label in poster 18 can be used as a souvenir for villagers to stick on the bottles of pesticides at home.

喷洒农药时避免直接接触皮肤



Poster 19: Direct skin contact should be avoided when spraying pesticides.

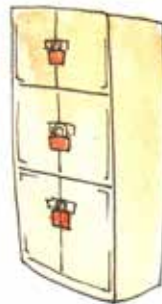
Part 2: Points to note for using pesticide (5 mins)

When using pesticides, protective measures (e.g. covering eyes, nose and mouth) should be in place to protect against the toxic effect of harmful substance.

单独放置，避免与食品，粮油放在一起



放置在远离小孩的地方



Poster 20: Pesticides should be stored separately from food and out of children's reach.

Part 3: Storage of pesticide (10 mins)

Avoid putting bottles of pesticide and food or cooking oil together. As some pesticides look like flour, it is easy to mix them up and mistakenly consume pesticides. Pesticide bottles should be out of children's reach to avoid being drunk.



Poster 21: Used pesticide bottles should be buried properly.

Part 4: Handling pesticide bottles after use (5 mins)

Pesticide bottles must not be littered in the field because others may come into contact with the harmful chemicals (e.g. children might pick up the discarded bottles). The bottles need to be buried in a centralised place or recycled.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Does pesticide use affect your health?
☐Yes ☐No ☐Don't know ☐Refused
2. Protective gears, especially for the face (including eyes, nose and mouth), should be worn when using pesticide.
☐Agree ☐Disagree ☐Don't know ☐Refused
3. It is important to understand the proper way of pesticide bottle storage and disposal.
☐Agree ☐Disagree ☐Don't know ☐Refused
4. Littering used pesticide bottles in nearby rivers will pollute the water and may lead to pesticide poisoning.
☐Agree ☐Disagree ☐Don't know ☐Refused
5. Pesticide bottles should be kept out of children's reach to prevent accidental pesticide ingestion.
☐Agree ☐Disagree ☐Don't know ☐Refused

Post-intervention questionnaire

1. Was the workshop meaningful to you?
☐Yes ☐No ☐Don't know ☐Refused
2. Did you understand the messages conveyed?
☐Yes ☐No ☐Don't know ☐Refused
3. Did the health worker(s) deliver the messages clearly?
☐Yes ☐No ☐Don't know ☐Refused
4. Does pesticide use affect your health?
☐Yes ☐No ☐Don't know ☐Refused
5. Protective gears, especially for the face (including eyes, nose and mouth), should be worn when using pesticide.
☐Agree ☐Disagree ☐Don't know ☐Refused
6. It is important to understand the proper way of pesticide bottle storage and disposal.
☐Agree ☐Disagree ☐Don't know ☐Refused
7. Littering used pesticide bottles in nearby rivers will pollute the water and may lead to pesticide poisoning.
☐Agree ☐Disagree ☐Don't know ☐Refused
8. Pesticide bottles should be kept out of children's reach to prevent accidental pesticide ingestion.
☐Agree ☐Disagree ☐Don't know ☐Refused
9. Please list the topics/areas that you would like to know more for the future health workshops.

5.4 Health Behaviour

This chapter first explains WHO's general health recommendations for disease transmission before pinpointing health promotion activity recommendations for smoking, alcohol consumption, dietary pattern for chronic disease patients, food handling and children's dental care. It should be noted that in introducing these specific topic-based recommendations, one should consider supplementing material from other chapters to ensure the concepts are comprehensive and intertwined. For example, potential fire hazard should be mentioned when introducing issues relating to smoking whereas the dietary pattern and water safety concepts can be neatly incorporated into the tooth brushing promotion activity.

Focuses for Early Assessment Phase

- Villagers' current smoking status and their knowledge about second-hand smoke / passive smoking
- Villager's drinking habits
- Villager's dietary and cooking habits
- Interview with village doctors about the villagers' disease patterns and chronic disease incidence and their medical consultation practice
- Children's snack eating and tooth brushing practice

5.4.1 Overview




WHO's guide for healthy villages⁽³⁶⁾ discusses health habits from different angles and dedicates one chapter to focus on personal and community health (summarised as below), much of which is related to the content in Chapter 5.1 Water and Health (e.g. hand washing and water source protection). Furthermore, food handling and safety will be detailed in this chapter to further explore the personal and community aspects of villagers' health behaviours.



▲ A typical kitchen in rural China



Topic	Teaching Focus	
Personal Hygiene	<p>Use soap to wash hands in the following situations:</p> <ul style="list-style-type: none"> • Before cooking • Before eating or feeding children • After toilet use or cleaning babies' stools <p>Note the following advice:</p> <ul style="list-style-type: none"> • Personal: Wash palms, backhand, finger webs and fingernails thoroughly • Environmental: Clean the toilet regularly 	
Food Hygiene	<ul style="list-style-type: none"> • Raw food should be thoroughly cooked before eating • Consume the cooked food as soon as possible • Food should be stored in the refrigerator • No food should be consumed directly from the refrigerator if electricity has been cut off • Reheat the leftovers thoroughly before consumption • Separate raw from cooked food • Keep the kitchen clean and dry • Clean kitchen utensils with water and detergent 	

Topic	Teaching Focus	
Drinking Water Safety	<ul style="list-style-type: none"> • Even if water looks clean, it may still contain bacteria • Boil water before drinking • Drinking water should be stored in clean, protected water tanks or buckets and consumed within 24 hours • Collect water from tanks/buckets by clean utensils/tools with handgrips 	
Water Source	<ul style="list-style-type: none"> • No urination or defecation near drinking water sources • No showering, laundry and utensil washing near drinking water sources • Protect public water sources with covers to avoid contamination • Water buckets should be hung up after use to avoid dirt on the floor • Keep the water pumps and their nearby environment clean • Clean the water storage facilities regularly 	
Patient Care	<ul style="list-style-type: none"> • Clean hands after having contact with patients or their clothes and excreta • Do not wash patients' clothes in public water sources • Patients' clothes and bed sheets should be treated with 5% chlorine for disinfection or cleaned with hot water and then dried under the sun 	



5.4.2 Smoking



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▲ Smoking through Shisha pipe in Yunnan Province

Current Problems

People living in different regions have developed various smoking practices. In Yunnan, people smoke through Shisha pipe (as pictured above). As tobacco planting is considered the economic pillar in Yunnan, its manufacture is seen everywhere. Culturally, it is common for men to greet one another with a cigarette. In the absence of smoking cessation promotion in these communities, villagers have limited knowledge about the health hazards associated with active or passive smoking^[6]. CCOUC's study in these local villages has also revealed that over 60% of villagers do not recognise any difference in the health hazards associated with indoor and outdoor smoking.

Health Education Intervention

1. As smoking cessation is never a short-term health promotion effort, long-term smoking counselling services as well as the support from family and friends are essential.
2. Health promotion targets the health hazards associated with smoking and its impacts on self and others, introduces ways to reduce the impact of smoking and brings co-benefits to indoor air quality.

Purpose of the Intervention

Through these health promotion activities, participants can understand the health hazards of smoking, especially how passive smoking impacts on pregnant women and children, and be encouraged to take proactive actions to stop smoking.



@CCOUC

▲ Health promotion: Impact of smoking on health

[6] According to WHO, smoke from cigarettes contains more than 4,000 chemical substances, of which over 250 are proved to be harmful to health and over 50 are carcinogenic. The health impacts of passive smoking to adults include an increased risk of cardiovascular and respiratory diseases, while pregnant women may be more likely to give birth to underweight new-borns. In 2014, passive smoking has caused more than 600,000 cases of premature deaths^[37].

Intervention Example: Drama & Poster

Time: 45 minutes

Materials: 1. Hoe; 2. Farming hat; 3. Paper whiteboards for naming (e.g. Doctor); 4.4. Cigarettes (remark: borrow from villagers or use finger biscuits); 5. Posters; 6. Three name plates for location (i.e. home/field/hospital)

Smoking Cessation Drama

Narrator: Andrew and his wife, May, lead a simple but happy life as farmers in a remote village. As the breadwinner, Andrew earns 50 RMB per month. He loves smoking; and spends almost half of the family income on purchasing cigarettes and leaves the remaining for family expenses. By all means, he cannot have any savings at the end of the month.

(Action: Andrew holds money in hand and spends on cigarette purchase; indicating no money in the pockets)

Andrew: Just ...enough for the month!

Scene 1: Home

Son: Dad, what's that? Glowing, smoke blowing, what a fun!

Andrew: (Angry look) Hey! This is for the adult's world. No entry for children!

Son: Dad only wants to scare me off. I have to try it out anyway.

Narrator: Son starts to smoke all out of his curiosity.

Scene 2: Field

Narrator: One day, when Andrew is working in the field, he realises that he has a shortness of breath after walking for not too long. He finds it so hard to breathe so he has no choice but to see the doctor, leaving the monthly family income in the air.

Scene 3: Hospital

Andrew: What is wrong with me, Doctor?

Doctor: (Taking history & auscultating the chest) Andrew, it's COPD, Chronic Obstructive Pulmonary Disease. This is a progressive disease that makes breathing harder for individuals. Cigarette smoking is the leading cause of COPD. If the disease is not being controlled, it will get worse over time, and it may lead to complications like heart failure or pneumonia...

Andrew: So what should I do?

Doctor: Quit smoking! Smoking has many side effects other than COPD. Take a look at these posters (Poster 22, 23 and 24). Smoking brings nothing beneficial to your health and is also dangerous to people near you, like your wife, who suffers from second-hand smoke or passive smoking. The threats posed by second-hand smoke are not less than first-hand smoke that causes lung cancer and cardiovascular diseases. Pregnant women are more prone to these threats, and their babies are more likely to have lung cancer.

May: Oh really! How terrible! My dear, you'd better stop smoking. By the way doctor, I often feel nausea and have an unusual appetite change recently. Am I sick too?



Scene 4: Home

For the whole family's benefit, Andrew started to quit smoking. The first few weeks were difficult for Andrew; he had been experiencing some nicotine withdrawal symptoms like headache, anxiety and nausea. He craved for more tobacco constantly but he was determined to quit smoking for the sake of his family.

Andrew: (Talking to May) The first few weeks after quitting smoking are tough for me. I am sorry for my bad temper, dear. But I start to feel more comfortable now with the new lifestyle – life without cigarettes! My chronic coughing condition is also getting better. I can work longer hours in the field now. Don't you think so, May?

May: Yes, dear. Our family's financial status is getting healthier too. We spend less on cigarettes and save more money. We are now affordable for more nutritious food for our children.

Andrew finally quits smoking and he enjoys his non-smoking life. Not painting a fairy tale, Andrew's family really lives happily and healthily.

Andrew: It's a win-win situation! Win my health and my sweet family.

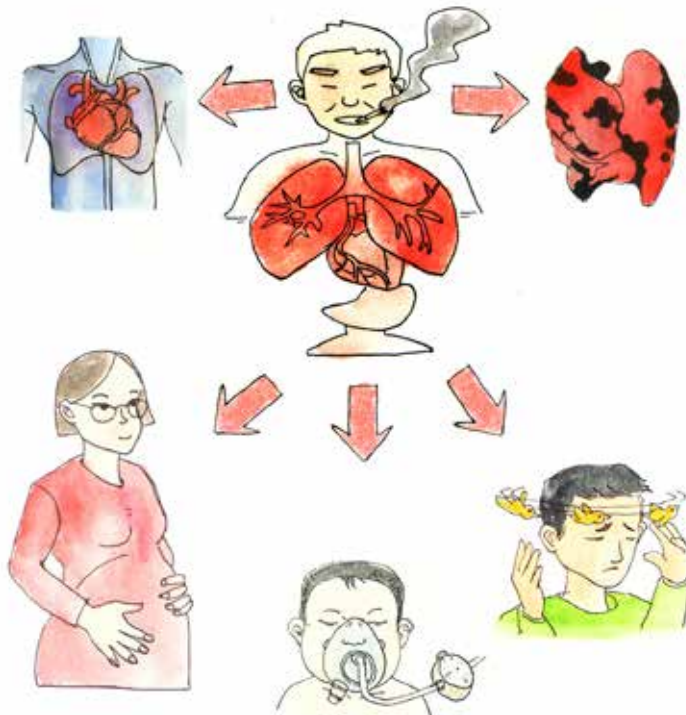
Note: Smoking cessation is a long process and individuals with such intention may experience various attempts and failures. Yet, it is still very important to encourage individuals to make the effort to quit. During health promotion, the concept of co-benefit can be emphasised. Smoking cessation will not only reduce the risks of having different sorts of diseases, it also improves the indoor air quality. Moreover, it creates a safer living environment for the family. The money saved from buying cigarettes can in return be used to provide for what the family needs. If the promotion is targeted towards who do not and have not smoked, emphasis should be placed on not starting, as smoking is addictive and quitting is difficult once started.

吸烟有百害无一利



Poster 22: Smoking brings only harms.

吸烟坏处多，影响你我他。



省下烟钱，过好生活



Poster 23: Smoking brings many harms to affect you and me.

Poster 24: Savings from cigarette expenses allow a better living.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Do you smoke?
☐Yes>Q2 ☐No>Q3
2. How much do you smoke every day?
☐Half pack or less ☐1 pack ☐2 packs or more ☐Don't know ☐Refused
3. Smoking can cause illnesses in different body parts.
☐Agree ☐Disagree ☐Don't know ☐Refused
4. Smoking can cause serious health and non-health related consequences to you.
☐Agree ☐Disagree ☐Don't know ☐Refused
5. Smoking can cause serious health and non-health related consequences to family members.
☐Agree ☐Disagree ☐Don't know ☐Refused
6. Smoking in front of children makes them more likely to become smokers.
☐Agree ☐Disagree ☐Don't know ☐Refused
7. Smoking causes more adverse consequences to children when compared to adults.
☐Agree ☐Disagree ☐Don't know ☐Refused
8. Do you smoke outdoors when somebody is at home?
☐Yes ☐No ☐Don't know ☐Refused
9. Why would you prefer not to smoke outdoors?
☐Inconvenience ☐Weather is too cold outside ☐Don't know ☐Refused

Post-intervention questionnaire

1. Is the workshop meaningful to you?
☐Yes ☐No ☐Don't know ☐Refused
2. Do you understand the messages conveyed?
☐Yes ☐No ☐Don't know ☐Refused
3. Can the health worker(s) deliver the messages clearly?
☐Yes ☐No ☐Don't know ☐Refused
4. Do you smoke?
☐Yes>Q5 ☐No>Q6
5. How much do you smoke every day?
☐Half pack or less ☐1 pack ☐2 packs or more ☐Don't know ☐Refused
6. Smoking can cause illnesses in different body parts.
☐Agree ☐Disagree ☐Don't know ☐Refused
7. Smoking can cause serious health and non-health related consequences to you.
☐Agree ☐Disagree ☐Don't know ☐Refused
8. Smoking can cause serious health and non-health related consequences to family members.
☐Agree ☐Disagree ☐Don't know ☐Refused
9. Smoking in front of children makes them more likely to become smokers.
☐Agree ☐Disagree ☐Don't know ☐Refused
10. Smoking causes more adverse consequences to children when compared to adults.
☐Agree ☐Disagree ☐Don't know ☐Refused
11. Do you smoke outdoors when somebody is at home?
☐Yes ☐No ☐Don't know ☐Refused
12. Why would you prefer not to smoke outdoors?
☐Inconvenience ☐Weather is too cold outside ☐Don't know ☐Refused
13. Please list the topics/areas that you would like to know more for the future health workshops.

5.4.3 Alcohol Drinking

Current Problems

In rural villages, alcohol drinking is a common social practice. The drinking habit is even more prevalent in some ethnic minority communities. In light of the possible health benefits of moderate drinking, CCOUC's study has revealed more cases of excessive alcohol use than moderate drinking in rural areas. As a matter of fact, excessive alcohol use can lead to various health problems. According to WHO, 5.9% of global deaths in 2013 are associated with alcohol drinking⁽³⁸⁾. Excessive alcohol use is a risk factor for over 200 diseases as well as mental and behavioural disorders, including cirrhosis, liver cancer, gastritis, gastric ulcer and cardiovascular diseases⁽³⁹⁾. Research report covering nine rural areas including Guizhou Province showed that 58.9% of teenagers aged 15 to 18 start drinking alcohol, reflecting a concern for teenage drinking and the need for relevant health promotion⁽⁴⁰⁾. In addition, not only is excessive alcohol use harmful to health, it can also bring hurt to families (e.g. domestic violence) and the others. If excessive alcohol use can be regulated through health promotion, the beneficiaries will then extend beyond the drinkers.

Health Education Intervention

As with other addictive habits, expecting complete quitting of alcohol use in a short space of time is unrealistic.



▲ The team introduces the harmful impacts of excess alcohol use.

Targeting the harmfulness caused by excessive alcohol use, villagers are advised to drink fewer times and with smaller portions in a progressive manner.

Purpose of the Intervention

Through these health promotion activities, participants can understand how alcohol drinking impacts on the body and be encouraged to gradually reduce the drinking frequency and amount to "zero alcohol" in the end.



Intervention Example: Drama & Poster

Time: 30 minutes

Materials: Poster, wine glasses

Scene 1: Restaurant

Jack and Max have been good friends since childhood. They are catching up in a restaurant.

Jack: Haven't seen you for a week. Where have you been?

Max: I just came back from the hospital!

Jack: What's wrong with you? Two drinks please! (Action: Ordering two drinks)

Max: Nah! I would like to have an orange juice instead.

Jack: What! Juice! Kidding me! Everyone knows that you are the King of Alcohol.

Max: The doctor told me that I am suffering from the early stage of fatty liver disease. Last week, I fainted at home suddenly. I went to hospital for a check-up, and I found out that my liver functions are declining, let alone the huge medical bill.

Jack: That's very unfortunate. How bad is your condition? And, what exactly is the liver problem ... that fatty liver thing?

Max: My doctor told me that heavy drinking takes a toll on the liver, causing alcoholic liver diseases. If I continue to drink heavily, the fatty liver disease will progress and result in cirrhosis, liver cancer or even death. He also advised me to drink less. Don't you know that I drink three bowls each meal? Now, Doc asks me to reduce it to two. Later on I can only drink one. Hopefully I can completely stop alcohol use. In addition, he said alcohol interferes with the brain's communication pathways, and can change mood and behaviour, and make it harder for one to control. Sometimes mood swing can bring harms to the family, hurting the sweethearts and children at home. How unworthy it is.

Jack: I am confused with all the medical jargons that you have just said.

Max: Don't worry. I have a friend who can explain more about alcohol and health to you. Let's go and listen to what he says.

Scene 2: Home

Narrator: Max is right in pointing out the harms brought by alcohol use. Not only can excessive alcohol use incur huge medical costs, it can also bring family discord or violence. I am here today to explain all the basics about alcohol and its health effects. The best way to avoid all these health consequences is to stop drinking. But you may ask, "how can I do that?". Well, let's talk about it.

What is the function of liver?

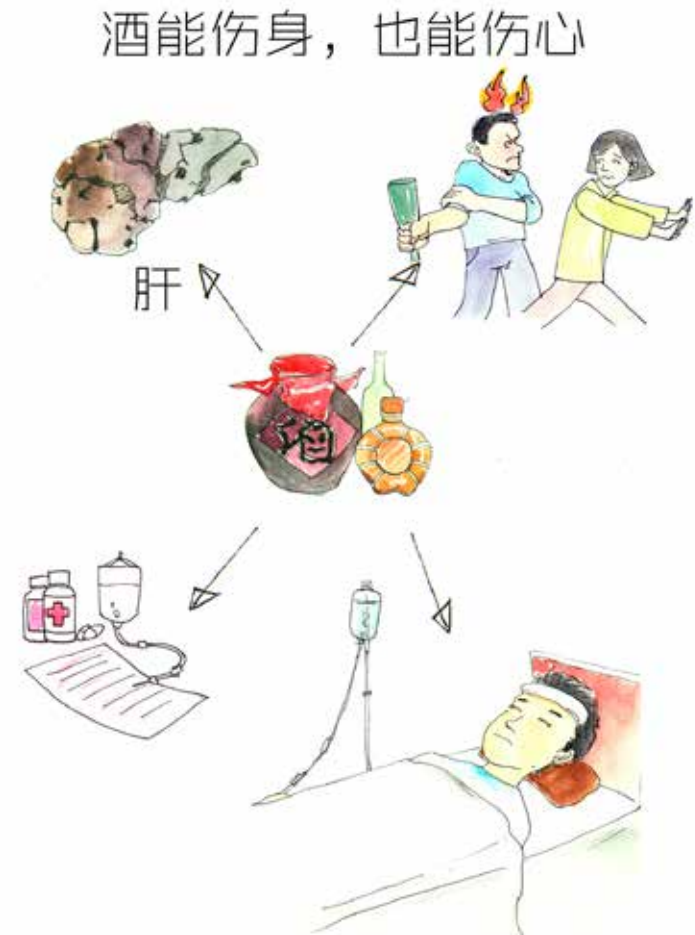
Narrator: The liver is one of the most important internal organs, as important as the heart, with various roles. Its primary function is to break down, or detoxify, harmful substances and get rid of waste products. In a person with a damaged liver, toxic substances will accumulate and cause irreversible damages. Frequent and excessive alcohol use may increase the risk of developing alcoholic liver diseases, like fatty liver disease or cirrhosis in serious cases. That is Max's case.

What is fatty liver disease and cirrhosis?

Narrator: Fatty liver disease is a condition where the liver contains excess fatty tissue. Alcohol can damage the liver and affect the way it handles fat, allowing excess fat to accumulate inside the body. If you have fatty liver disease, liver function may continually deteriorate after a period of heavy drinking and may progress to cirrhosis, which is an irreversible scarring of liver tissue (Poster 25, 26)

Cirrhosis is a progressive disease in which healthy liver tissues are replaced by scarred ones, eventually leading to impaired liver function. Improper treatment may lead to liver cancer. Therefore, proper management is important to patients with alcoholic liver diseases.

Reducing the amount of alcohol intake can help reduce liver damage in the early stages of liver diseases, decreasing the fat content in the liver. The early treatment, if not prevention, of alcoholic liver diseases is important.



Poster 25: Alcohol hurts your body, as well as your dear.



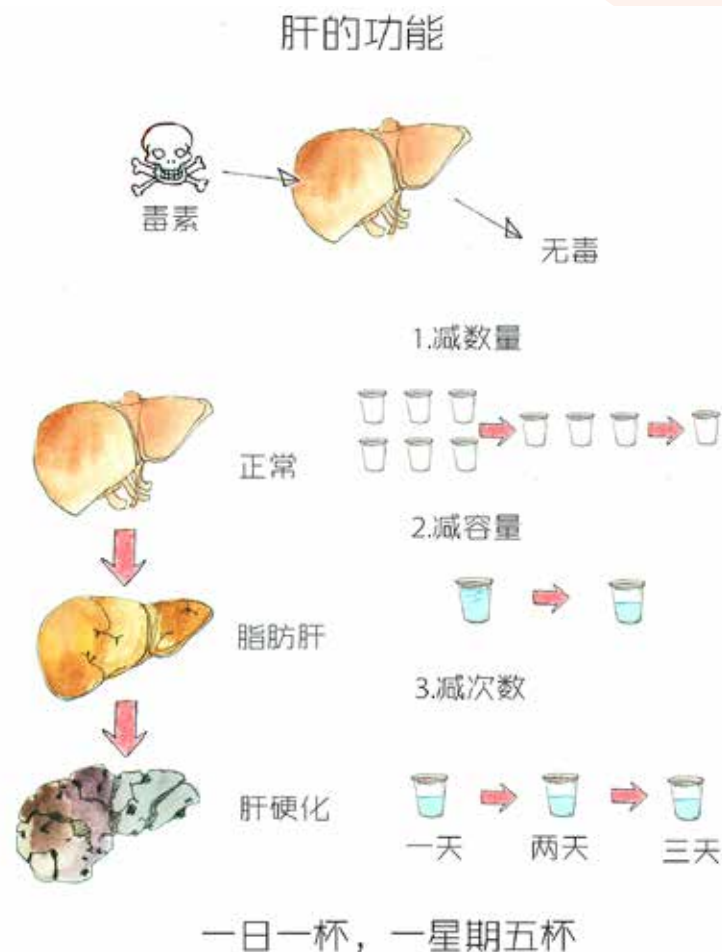
Zero alcohol use and timely treatment can prevent the diseases from progressing to the worse ends.

Controlling alcohol consumption

Narrator: Well, it is understood that asking someone to stop alcohol use completely is difficult. Self-control is the key in achieving this goal. To start with, it is recommended to take days off from drinking or reduce the amount of alcohol intake each time. For instance, lowering the amount can be done by using smaller containers. Also, keeping track of the drinking habit is crucial in controlling alcohol consumption. Of course, the ideal is to drink no more than a glass each day and fewer than five glasses a week.

Jack: Oh, I know more about alcohol and health now. I think I should start controlling my alcohol intake too. Hey! I would like to have an orange juice instead.

Max: That makes sense! It's not too difficult to stop alcohol use. I feel confident now (pounding chest with his fist). How about you all (looking around the audience)?



Poster 26: The adverse impacts of alcohol on liver

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Excessive alcohol use can cause adverse effects on my health.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. How many glasses per day do you recognise as excessive alcohol use?
<input type="checkbox"/>1 <input type="checkbox"/>3 <input type="checkbox"/>5 <input type="checkbox"/>7 <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. Excessive alcohol use can cause fatty liver disease.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused | <ol style="list-style-type: none"> 4. Excessive alcohol use may greatly increase your medical expenses.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. Fatty liver can be cured after you quit drinking.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. I know the most effective way to stop alcohol use.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused |
|--|---|

Post-intervention questionnaire

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 4. Excessive alcohol use can cause adverse effects on my health.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. How many glasses per day do you recognise as excessive alcohol use?
<input type="checkbox"/>1 <input type="checkbox"/>3 <input type="checkbox"/>5 <input type="checkbox"/>7 <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. Excessive alcohol use can cause fatty liver disease.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused | <ol style="list-style-type: none"> 7. Excessive alcohol use may greatly increase your medical expenses.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 8. Fatty liver can be cured after you quit drinking.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 9. I know the most effective way to stop alcohol use.
<input type="checkbox"/>Agree <input type="checkbox"/>Disagree <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 10. Please list the topics/areas that you would like to know more for the future health workshops. |
|---|---|

Note:

The promotion emphasis should be placed on moderate drinking instead of no drinking. In light of the locality of culture or social needs, drinking is often unavoidable. With respect to the local practices, it is important to enforce moderate drinking.



5.4.4 Knowledge and Prevention of Hypertension



▲ Check-up is one of the core measures to improve the chronic conditions in rural areas.

Current Problems

Following economic prosperity and rapid urbanization, rural villages are also inescapable from having high number of chronic disease patients including hypertension^[7]. According to the WHO guidelines, hypertension is defined as a systolic blood pressure equal to or above 140mmHg and a diastolic blood pressure equal to or above

90mmHg⁽⁴¹⁾. It should be cautioned that hypertension is not diagnosed with a single over-the-limit measurement but persistent measures of high readings with clinical observation. Since early-stage hypertension has no observable symptoms, villagers, many of whom have no regular health check-ups, are usually unaware of this condition. Suboptimal or delayed hypertension control can lead to serious complications, including strokes or other cardiovascular diseases. Therefore, if hypertension can be timely diagnosed with proper treatment, the condition can be effectively managed, thus significantly reducing the medical costs incurred.

Health Education Intervention

There are a number of ways to treat chronic conditions in rural villages. Treatment is only one of the measures for tackling hypertension. Cost-effective means may include health promotions, health check-ups, targeted behavioural interventions and lifestyle changes⁽⁴²⁾.

Purpose of the Intervention

Through these health promotion activities, participants can deepen their understanding of hypertension and realise the importance of a low sodium diet and healthy lifestyles in managing hypertension.

[7] According to the official statistics, the prevalence of hypertension, diabetes and cerebrovascular diseases among rural villagers are ranked the top ten of all the chronic conditions in rural China⁽⁴³⁾. In 2003, the prevalence of hypertension among rural villagers was 1.64% compared to 3.85% in 2008.

Intervention Example: Workshop & Poster

Time: 30 minutes

Materials: Poster, teaspoons, paper, salt

Hypertension – Sodium in your diet

MC: Hello everyone! The topic of this workshop will be on hypertension. Before we start, let me ask everyone a question. “What is hypertension?” (Looking for responses from the crowd)

MC: Hypertension is also referred as high blood pressure. It is a chronic medical condition in which the arteries have persistently elevated the blood pressure: at or above 140/90 mmHg for adults.

Not many symptoms of hypertension can be seen initially, but sustained hypertension over time is a major risk factor for stroke and other heart diseases. The symptoms of hypertension include headache, vertigo, tinnitus, episodic fainting, etc. Given that the symptoms of hypertension are not obvious and the condition becomes symptomatic generally in more serious cases, most patients only find out if they are hypertensive when they visit their doctor for a body check-up.

High blood pressure is also known as a “silent killer” because it typically has no symptoms until it has caused significant damage to the vessels and organs. Therefore, high-risk groups should pay more attention to their health condition. Risk factors of hypertension include: smoking, alcoholism, high sodium diet, etc. Smoking is not only one of the major risk factors of hypertension, but also a leading risk factor of many other diseases, e.g. lung cancer and cardiovascular diseases.

Sodium can raise blood pressure, contributing to the manifestation of hypertension. Therefore, a balanced diet with controlled sodium (salt) intake is important for hypertensive patients.

Question: What is the recommended daily allowance for sodium intake?

Salt is also known as sodium chloride, one of our main sources of sodium comes from our diet.

(Activity 1: Invite two or more participants, ask them how many grams of salt intake is recommended daily.)



Answer: According to WHO, adults should absorb no more than 5 g of salt a day. Specifically designed for Chinese diet, China has a national guideline of 6 g of salt per day.

MC: How do I know if I am eating 6 g of salt a day?
(Activity 2: Invite participants to estimate 6 g of salt.)

- 6 g of salt = around one teaspoon

MC: Please remember adults should eat no more than 6 g of salt a day. After today's workshop, we hope that everyone has a better understanding of hypertension and its relationship with sodium consumption. We have prepared some souvenirs for every one of you. (Suggestion: a 6-g teaspoon)

Other than controlling sodium intake, a balanced diet is also important in reducing the risk of hypertension. Have you heard of the food pyramid?



Poster 27: Consuming less salt is the first step in hypertension prevention.

Food pyramid

[Illustrate the food pyramid by a poster.]

MC: Let's look at the poster.

- **Grains:** Grains are the major dietary energy source for our body. This includes rice, noodles, bread, etc. They make up the largest part of our daily diet.
- **Vegetables and fruits:** Vegetables and fruits contain many vitamins, fibres and minerals, which are essential to our health.
- **Meat and dairy products:** Meat and dairy products are rich sources of protein, which are crucial in muscle development. Meat also provides other nutrients like iron, zinc and vitamin B12.
- **Fats, salt and sugar:** It is advised that fats, salts and sugars be consumed sparingly. Excessive intake of these substances may cause harmful effects to health.

In conclusion, it is important to keep a balanced diet in order to live a healthy life. If you don't remember some of these facts, look at the food pyramid again: consume less those on the top and more those at the bottom.



健康宝塔

Poster 28: Food pyramid



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|---|--|
| 1. It is useful for me to know the symptoms of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | complications like stroke or other cardiovascular diseases.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Headache may be a sign of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 5. I know that some lifestyle factors lead to hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Tinnitus can be a sign of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. I often consume salty/oily food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 4. Suboptimal hypertension control can lead to serious | |

Post-intervention questionnaire

- | | |
|---|---|
| 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 7. Suboptimal hypertension control can lead to serious complications like stroke or other cardiovascular diseases.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 8. I know that some lifestyle factors lead to hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 9. In the future, I will often consume salty/oily food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 4. It is useful for me to know the symptoms of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 10. Please list the topics/areas that you would like to know more for the future health workshops. |
| 5. Headache may be a sign of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |
| 6. Tinnitus can be a sign of hypertension.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |

5.4.5 Food Safety Management

Current Problems

Safe food handling concerns the quality of food source provision and food handling chain, from preparation, cooking to storage, as well as the appropriate temperature for food storage. In rural villages, every step of food preparation risks different degrees of contamination. CCOUC's survey reported that villagers do not wash their hands before processing food. They use the same chopping board for both raw and cooked food. Moreover, more and more rural villagers have refrigerators at home. They believe that simply storing food in the refrigerators can prevent it from turning bad. However, refrigerators



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▲ Contamination can occur in any stage of the food handling process.



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▲ Food safety is influenced by various factors.

may stop working due to unstable power supply, leading to easier food spoilage out of the vast temperature difference.

Health Education Intervention

Food safety is affected by different factors. WHO listed in its safe food manual the following five factors: food hygiene, raw and cooked food separation, thorough cooking, food storage at right temperatures, safe water and raw material use (detailed in the following table)⁽⁴⁴⁾. This section emphasises the major points to note in food handling.



Food Safety	Notice	
Clean	<ul style="list-style-type: none"> Always wash your hands before and during food preparation Wash and sterilise all used utensils after cooking 	<ul style="list-style-type: none"> Keep the kitchen clean to prevent food contamination by pests Wash hands after toilet use
Separate	<ul style="list-style-type: none"> Handle raw meat and seafood separately from cooked food Use different knives and chopping boards for raw and cooked food respectively 	<ul style="list-style-type: none"> Store cooked food in containers to separate it from raw food
Cook	<ul style="list-style-type: none"> Ensure food, especially meat, egg and seafood, is fully cooked and safe to eat Reheat leftovers before eating 	<ul style="list-style-type: none"> Packaged food like canned soup needs to be heated up to at least 70°C before eating
Storage	<ul style="list-style-type: none"> Keep cooked and perishable food in the refrigerator (below 5°C) Cooked food should be re-heated over 60°C before use 	<ul style="list-style-type: none"> Even refrigerated food cannot be stored for long Do not defrost food in room temperature Cooked food should not be kept at room temperature for more than 2 hours
Source	<ul style="list-style-type: none"> Use safe water or process untreated water before use Choose food that has been sterilised, e.g. pasteurised milk 	<ul style="list-style-type: none"> Rinse fruits and vegetables eaten raw Peel fruits before eating Avoid eating moulded food Avoid eating expired food

Purpose of the Intervention

Through these health promotion activities, participants can better understand:

1. The points to note when handling food

2. Preparation process before cooking (Wash hands, vegetables and cooking utensils)
3. Separating cooked and raw food
4. Reheating leftovers before eating

Intervention Example: Poster

Time: 30 minutes

Part 1: Preparation before cooking (10 mins)

- Since it is natural for hands to come in direct contact with food, it is important to clean them before cooking, especially after using the toilet and feeding livestock.
- Rinse the cooking materials before use, even the home-grown vegetables, as the materials may have come in contact with bacteria and germs during purchase or transfer. Cooking utensils, which easily breed bacteria, should also be rinsed before use.

Part 2: Separation of cooked and raw food (10 mins)

- As cross-contamination of cooked and raw food can easily cause food-borne diseases, separation of these two types of food is needed.
- Separation of cooked and raw food refers to the avoidance of using the same chopping board or knife to cut raw and cooked foods. If the family does not own two separate sets of chopping boards and knives, the equipment should be cleaned after cutting raw meat and before using it for other cooked food.

洗手洗菜洗用具 请用干净水源



Poster 29: Rinse with clean water: Your hands, vegetables and utensils



生熟分开



生熟分开处理



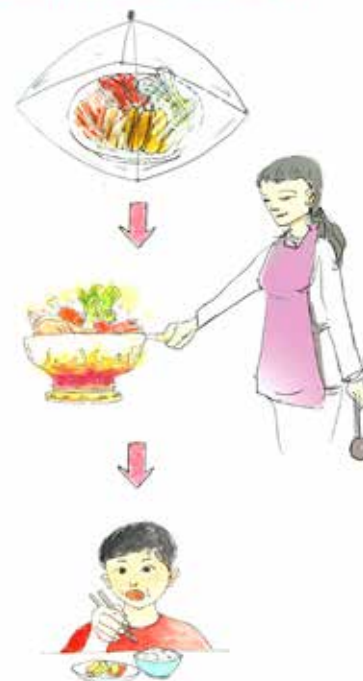
切完生肉洗干净再使用

Part 3: Thorough reheating of leftovers (10 mins)

If leftovers are not properly stored, they are likely to be colonised by bacteria. Therefore, leftovers should be thoroughly reheated before eating.

剩菜加热，要热透

(剩菜应存放于阴凉处，不超过24小时)



Poster 30: Cooked and raw food separation

Poster 31: Reheating leftovers thoroughly

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Unclean and decayed food affects my health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 2. Food quality is very important to me.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 3. It is important to wash hands before cooking.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 4. It is important to wash vegetables and cooking utensils before cooking. | <div style="text-align: right;"><input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused</div> <ol style="list-style-type: none"> 5. Raw food including meat, poultry and seafood may contain bacteria that cause diseases by contaminating other food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 6. I would reheat leftovers before eating.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
|--|---|

Post-intervention questionnaire

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 4. Unclean and decayed food affects my health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 5. Food quality is very important to me.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 6. It is important to wash hands before cooking.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | <ol style="list-style-type: none"> 7. It is important to wash vegetables and cooking utensils before cooking.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 8. Raw food including meat, poultry and seafood may contain bacteria that cause diseases by contaminating other food.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 9. I would reheat leftovers before eating.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused 10. Please list the topics/areas that you would like to know more for the future health workshops. |
|---|---|



5.4.6 Tooth Brushing



▲ Tooth model is used to illustrate tooth brushing.

Current Problems

With continuous improvement in living standard, snack is consumed by more and more children. In addition to their imbalanced supply of nutrients, snack eating leads to more tooth decay^[8] among children. A report in 2012 pointed out that more than 60% of 5-year-olds have tooth decay and the prevalence of periodontitis is above 50% among 12-year-olds^[45].

Health Education Intervention

Regular tooth brushing is the most effective way to prevent tooth decay and periodontitis. A correct way of tooth brushing removes the food debris and dental plaques on the surface of and between teeth, reduces the bacteria in the mouth and other harmful substances (especially the sugar left over from sweets) and prevents a number of dental problems. The gentle massaging during brushing also stimulates the gingiva and increases blood circulation of the periodontal tissues, keeping the oral cavity healthy.

Purpose of the Intervention

Through these health promotion activities, participants can pay more heed to oral health and hygiene and be familiar with the correct timing and way of tooth brushing.

[8] Tooth decay is also known as dental caries, primarily caused by the presence of bacteria, which progressively destroy tooth tissues. The toxin produced by these bacteria can also damage the gum tissues around the teeth, thus causing periodontal diseases^[46].

Intervention Example: Classroom Activity

Time: 45 minutes; Target group: Students of Primary 3 and below; Materials: Water, tooth model, tooth brush and poster

1. A tooth fairy tale story to encourage children to brush and floss (10 mins)

Once upon a time, there was a kingdom named Awroton, described as the realm of child prodigies. There was a little girl named Annabelle. Annabelle was a bright child and she had a very tight schedule. She loved to make good use of her time by reading and playing. The only thing Annabelle disliked more than anything else was brushing her teeth. She seldom brushed her teeth and thought this was a waste of time.

It was a known secret that in a land high above the clouds of this country was the place where tooth fairies live. According to the tooth fairy law, when a child loses a baby tooth, he or she should place it under his or her pillow. At night, while the child sleeps, the tooth fairy will come to collect the tooth and leave a gift in exchange. This was heavy work for just one tooth fairy to be responsible. The tooth fairy mother decided to let her three fairy children (Bobby, Charlie and Charlotte) share the workload, and each of them was in charge of their own type of baby teeth.

Bobby was a dirty fairy. He did not care much about personal hygiene. He was responsible for collecting dark

rotten teeth. He loved to play tricks on the other fairies or children. He was the only fairy who was always on time for his job. It was not because he worked diligently. Instead, it was because he loved to leave “gifts” for children. He left items such as banana peels, expired chocolate or even insects.

Charlie was a lazy chubby fairy. He loved eating junk food. He was responsible for collecting yellowish teeth. It was common for him to come for the tooth a few days late. He often forgot to bring gifts with him, so he might just leave the snack that he was eating or a single dollar as payment.

Charlotte was a thoughtful and wealthy fairy. She spent lots of time shopping for the perfect gift for the children she visited. She gave away presents like books, toys, Lego, necklaces or new outfits in exchange for the perfect tooth. She was only interested in teeth that were kept in the best condition. Therefore, Charlotte would only visit the children who properly brushed and flossed.

One day, Annabelle noticed her tooth was loose. Since she seldom brushed her teeth, the loose tooth turned greyish colour. She became very worried that Fairy Bobby would come once her tooth fell out. She ran home after school and told her parents about it. Annabelle's mom told her about the Tooth Fairy Mother, who might be able to help her.

That evening, for the first time ever, Annabelle sought help from the Tooth Fairy Mother. Although Annabelle could not see the fairy mother, she could feel her presence. She made a promise that she would brush her teeth everyday





1



2



3



4



5



6



7



8



9



10



11



12

properly; in return she hoped that Fairy Bobby would not play tricks on her.

Annabelle felt anxious that whether Tooth Fairy Mother would listen to her prayer. Her tooth finally fell out. She put it under her pillow and fell asleep.

The next morning, the first thing she did after waking up was checking her little tooth. "It's GONE! It's GONE!" she yelled. Annabelle's tooth had gone and she found a scroll with a message on it!

"Dear Annabelle, Last night while you were sleeping, I came to visit you secretly. I heard your pleading and I kept my promise to collect your grey baby tooth instead of letting Bobby to do so. Please keep your promise too! And I left a surprise for you to see! PROPER BRUSHING & FLOSSING! Love, The Tooth Fairy Mother"

Annabelle was so happy and she told her parents about it. She searched every corner of the house, and finally, she found the surprise left by the fairy mother. It was a new pretty toothbrush, engraved with words.

"Using it to brush your teeth twice a day will keep them clean and bright!"

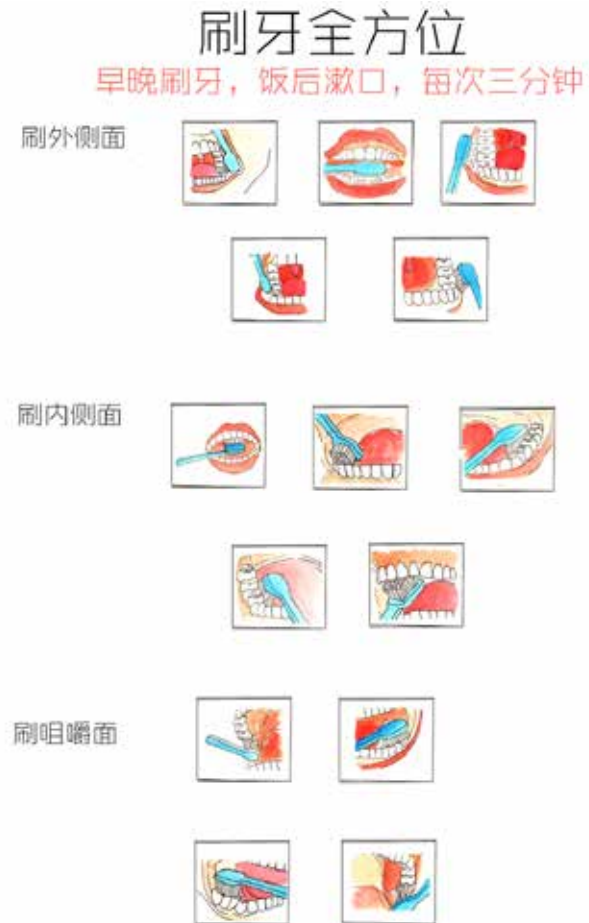
Since then, Annabelle has brushed her teeth twice a day. She no longer thought that brushing her teeth was a waste of time; instead, it was something enjoyable. Unknowingly, a little white speck popped out of the spot where her tooth had been.

1. **Explain the process of tooth decay with the tooth model (5 mins)**
 - Briefly explain the process of tooth decay.
 - Discuss why consuming fewer snacks is wise.
2. **Proper tooth brushing: Combination of tooth model and poster (25 mins)**
 - Through a question and answer session, the content introduced is summarised and the participants' understanding and retention are assessed.



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▲ The team uses a tooth model to introduce how to brush teeth.



Poster 33: Proper tooth brushing



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|---|
| 1. Tooth brushing has huge impacts for my health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 4. Tooth brushing can remove food debris and other bacteria on the surface of and between teeth.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. If one does not brush teeth, the oral cavity will breed bacteria that may cause tooth decay.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 5. I know how to brush teeth properly.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Tooth decay causes serious adverse consequences.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. Less snack consumption will reduce the tooth decay risk.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |

Post-intervention questionnaire

- | | |
|--|---|
| 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. Tooth decay causes serious adverse consequences.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 7. Tooth brushing can remove food debris and other bacteria on the surface of and between teeth.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 8. I know how to brush teeth properly.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 4. Tooth brushing has huge impacts for my health.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 9. Less snack consumption will reduce the tooth decay risk.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 5. If one does not brush teeth, the oral cavity will breed bacteria that may cause tooth decay.
<input type="checkbox"/> Agree <input type="checkbox"/> Disagree <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 10. Please list the topics/areas that you would like to know more for the future health workshops. |

5.5 Disaster Risk-Related Preparedness

This chapter mainly focuses on the application of knowledge on and awareness of disaster preparedness and mitigation, including the response and health risk assessment of earthquakes, floods, mudslides and fires. Also, information on the preparation and application of the disaster preparedness kits will also be covered. Readers are recommended to refer to the information in 5.1.4 Oral Rehydration Solution when carrying out the disaster preparedness training or workshops. Those who are interested and want to know more about disaster and medical humanitarian responses, please refer to CCOUC Online course such as “Public Health Principles in Disaster and Medical Humanitarian Response”. Website: <http://phpidccouc.conted.ox.ac.uk/>

Focuses in Early Disaster Health Risk Assessment

- Disaster type
- Disaster frequency
- Disaster impact
- Recent disasters
- Climate change and its trends



- Existing disaster contingency plan and warning system
- Villagers'/citizens' awareness of issues related to existing disaster contingency plan and alarming system
- Previous experience in disasters and extreme events (e.g. casualties, damages, economic losses, etc.)
- Previous experience in response and rehabilitation



▲ A village after an earthquake



5.5.1 Earthquake

Current Problems

China is one of the most earthquake-prone countries in the world. In recent years, many seismic activities have occurred in densely populated locations resulting in great casualties. Earthquakes have become one of the most economically devastating natural disasters in Chinese history. Examples include the M8.0 Wenchuan event in 2008, the M7.1 Yushu event in 2010, the M7.0 Lushan event and the M6.6 Dingxi event in 2013.

Many countries around the world are also vulnerable to this natural disaster, resulting in massive casualties. From a public health perspective, it is not possible to prevent or change the likelihood of earthquakes. However, we can greatly increase our chances of survival and safety by actively promoting disaster preparedness awareness.

Health Education Intervention

Earthquake Safety Guidelines:

1. If you are indoors:
 - Keep calm and stay away from any furniture, which might slide or topple over.
 - Stay away from any windows, sliding glass doors or mirrors.



▲ Disaster preparedness kits may play an important role in disaster response.



▲ Earthquakes have caused significant casualties and economic losses in China.



Purpose of the Intervention

This activity aims to raise public awareness on the impacts of earthquakes and how to respond to them.



▲ When there is an earthquake, keep calm and try to avoid potential dangers.

2. If you are outdoors:

- Stay away from the slopes, rivers and any potential dangers e.g. overhead power lines.
- If possible, proceed cautiously to an open area.

Key message:

- Keep calm and evacuate orderly.
- Protect yourself.
- Stay away from any environmental danger.
- Try to seek information to plan further response.

Poster 34: How do we avoid indoor risks in an earthquake?



Intervention Example: Poster

Time: 30 minutes

Part 1: Indoor safety precaution of earthquake (10 mins)

Key message: Head protected during earthquake

If you are indoors,

- Take cover under sturdy furniture to protect the head.

Part 2: Outdoor safety precaution of earthquake (10 mins)

Key message: Orderly evacuation to avoid over-crowding

- Move to an open area
- Stay away from the buildings, electric power lines, power poles and lamp posts
- Stay away from slopes and rivers
- Be prepared for aftershocks

Part 3: What can you do when you're trapped after an earthquake?

Key message: Protect your airway, preserve body energy and wait for rescue

- Remove debris piece-by-piece carefully and avoid causing further collapse
- Cover nose and mouth for protection against foul odours or suspended dust in the air
- Use a whistle or hit stones to make some noise to draw attention and call for rescue
- If possible, look for water and food supply



Poster 35: How do we evacuate outdoors when an earthquake strikes?

省点力气，敲击求救，使用哨子



Poster 36: When buried, cry for help by making noise or using whistle.

被掩埋时，危急求救。



Poster 37: Seek immediate help when buried.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Does your residential area have frequent earthquakes?
☐ Yes ☐ No ☐ Don't know ☐ Refused
2. Is it important to know how to protect yourself during an earthquake?
☐ Yes ☐ No ☐ Don't know ☐ Refused
3. Do you know how to protect yourself and avoid dangers during an earthquake?
☐ Yes ☐ No ☐ Don't know ☐ Refused
4. Do you stay away from the hill slopes and rivers when an earthquake strikes?
☐ Yes ☐ No ☐ Don't know ☐ Refused
5. If an earthquake ever happens again, are you confident that you are able to cope?
☐ Yes ☐ No ☐ Don't know ☐ Refused

Post-intervention questionnaire

1. Was the workshop meaningful to you?
☐ Yes ☐ No ☐ Don't know ☐ Refused
2. Did you understand the messages conveyed?
☐ Yes ☐ No ☐ Don't know ☐ Refused
3. Did the health worker(s) deliver the messages clearly?
☐ Yes ☐ No ☐ Don't know ☐ Refused
4. Is it important to know how to protect yourself during an earthquake?
☐ Yes ☐ No ☐ Don't know ☐ Refused
5. Do you know how to protect yourself and avoid dangers during an earthquake?
☐ Yes ☐ No ☐ Don't know ☐ Refused
6. Do you stay away from the hill slopes and rivers when an earthquake strikes?
☐ Yes ☐ No ☐ Don't know ☐ Refused
7. If an earthquake ever happens again, are you confident that you are able to cope?
☐ Yes ☐ No ☐ Don't know ☐ Refused
8. Please list the topics/areas that you would like to know more for the future health workshops.

5.5.2 Flooding

Current Problems

With global climate change, natural disasters such as extreme weather events will occur more frequently in China. In 2013, all 31 provinces of China were affected by flooding, resulting in a total of 774 deaths, 374 missing, 120 million people affected and an economic loss of more than RMB 300 billion⁽⁴⁷⁾.

Health Education Intervention

As flooding is a major threat to many regions along the river, disaster preparedness measures such as disaster preparedness kits should be emphasised (refer to section 5.5.5). People should also be warned to stay away from the flooded areas, electric cables and slopes. During flooding, swimming is not an evacuation method. Using boats or floating devices are preferred. If evacuation is impossible, individuals should stay in a safe place and wait for rescue. After flooding, water sanitation and hygiene can be a major concern. Do not consume food that has been contaminated by the flood.

Purpose of the Intervention

This activity aims to raise public awareness on the impacts of flooding and how to respond to them.



▲ Community flood warning



Intervention Example: Poster

Time: 30 minutes

Part 1: Safety precautions in rainstorms and flooding (10 mins)

- Stay away from low-lying areas and try to build houses on highlands in flood plains;
- Pay attention to weather forecasts;
- Choose a suitable venue for evacuation; and
- Prepare disaster preparedness kits and adequate amount of energy food supply.

Part 2: How to cope with flooding (10 mins)

Pay attention to:

- Evacuate to highlands; Do not attempt to climb up electric cable posts;
- Secure oneself to any fixed or floating objects if trapped in a flood.

Stay away from the following places:

- Electric power lines and surrounding areas;
- Slopes, fish ponds, reservoirs and rivers roundabouts;
- Collapsed buildings (Caution: do not attempt to swim unless the water level rises above the roof).

洪水来了，怎么办？

往高处走



避开山坡



不要游泳



不要过河



抓住浮体



避开电线杆



Poster 38: Do's and don't's in a flood

水灾后请注意



勿喝脏水



勿吃被水污染的食物



勿入危房



小心电线

Part 3: Post-flooding reminders (10 mins)

- Avoid drinking contaminated water;
- Do not consume contaminated food;
- Do not return to collapsed buildings or houses; and
- Beware of the power lines.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|--|
| 1. Does your residential area have frequent floods?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 4. Will you consume food that has been soaked in flood water?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Is it important to know how to protect yourself when flooding comes?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 5. If flooding ever happens again, are you confident that you are able to cope with it?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. When flooding occurs, will you run towards the highlands?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |

Post-intervention questionnaire

- | | |
|--|--|
| 1. Was the workshop meaningful to you?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 6. Will you consume food that has been soaked in flood water?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 2. Did you understand the messages conveyed?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 7. If flooding ever happens again, are you confident that you are able to cope with it?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused |
| 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | 8. Please list the topics/areas that you would like to know more for the future health workshops. |
| 4. Is it important to know how to protect yourself when flooding comes?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |
| 5. When flooding occurs, will you run towards the highlands?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know <input type="checkbox"/> Refused | |

5.5.3 Mudslide / Landslide



▲ Early recognition of mudslides / landslides coming may result in better chance of survival.

Current Problems

China has a vast and diverse landscape, and is one of the most mudslide-prone countries in the world. At present, mudslide / landslide is one of the most common natural disasters across the diverse landscape of China^[9]. It mainly affects provinces such as Yunnan, Sichuan, Gansu, Shaanxi and Tibet^[48]. The most severe mudslide disaster recently occurred in Gansu in 2010, with more than 1,000 reported.

deaths or missing cases and huge economic loss. Owing to climate change, rainstorms will increase in frequency even in previously drought-prone regions.

Health Education Intervention

Uncommon sounds (e.g. strong wind or tree cracking) and situations (e.g. sand flow) are the early signs of a mudslide. The earlier one recognises a mudslide, the higher the chance one may survive. If someone is stuck in the mud, noises should be made to call for rescue by blowing the whistle in the disaster preparedness kit or hitting some rock with hard objects. Shouting for help is not preferred since the sound from whistle blowing is far-reaching than shouting alone.

Purpose of the Intervention

This activity aims to raise public awareness on the impacts of mudslide / landslide and discusses how to respond to this natural hazard.

[9] Mudslide is referred to as a special type of landslide with massive flow of large quantities of debris of muddy soil and rock caused by heavy rain, snowstorm or other natural hazards in mountainous areas or places with rugged terrains^[49].



Intervention Example: Poster

Time: 20 minutes

Part 1: Mudslide warning signs (10 mins)

Key message: Be alert!

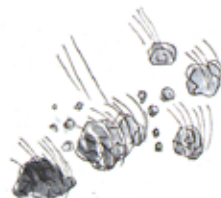
According to the recommendations by the China National Commission for Disaster Reduction, mudslide / landslide warning signs include⁽⁵⁰⁾:

- Cracks on mountain slopes
- Visible evidence of slow, downhill movement of rock and soil
- Tilting of trees, poles or buildings
- Visible changes of river level, sudden decrease or increase of water flow
- Pay attention to the following sounds:
 1. Debris flowing from the hillslopes
 2. Cracking sound of hillslopes and trees

怪声音，要注意！



暴风声



石子滚动声



树木断开声

Poster 40: Caution against unusual sounds.



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- ▲ Avoid any zones that are prone to geological hazards.



Part 2: How to respond to a mudslide (10 mins)

If you are in the mudslide area:

- Look for any nearby safe zone as soon as possible;
- Escape sideways rather than towards the mudslide direction; and
- Hold on to any fixed objects including trees when it is not possible to evacuate.

Poster 41: Escape sideways rather than towards the mudslide direction.



Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

1. Does your residential area have frequent mudslides?
☐Yes ☐No ☐Don't know ☐Refused
2. Is it important to know how to protect yourself during a mudslide?
☐Yes ☐No ☐Don't know ☐Refused
3. When you hear strange noise during a rainstorm, should you find a shelter?
☐Yes ☐No ☐Don't know ☐Refused
4. Is it relatively safer to escape to lowlands when river level rises?
☐Yes ☐No ☐Don't know ☐Refused
5. If mudslide ever happens again, are you confident that you are able to cope with it?
☐Yes ☐No ☐Don't know ☐Refused

Post-intervention questionnaire

1. Was the workshop meaningful to you?
☐Yes ☐No ☐Don't know ☐Refused
2. Did you understand the messages conveyed?
☐Yes ☐No ☐Don't know ☐Refused
3. Did the health worker(s) deliver the messages clearly?
☐Yes ☐No ☐Don't know ☐Refused
4. Is it important to know how to protect yourself during a mudslide?
☐Yes ☐No ☐Don't know ☐Refused
5. When you hear strange noise during a rainstorm, should you find a shelter?
☐Yes ☐No ☐Don't know ☐Refused
6. Is it relatively safer to escape to lowlands when river level rises?
☐Yes ☐No ☐Don't know ☐Refused
7. If a mudslide ever happens again, are you confident that you are able to cope with it?
☐Yes ☐No ☐Don't know ☐Refused
8. Please list the topics/areas that you would like to know more for the future health workshops.

5.5.4 Fire



▲ Fire prevention measures in wood-structured housing is important.

Current Problems

In rural communities, housing density, structure and building materials affect fire hazard risks. For example, most of the buildings in villages in Guangxi are made of wood, making ignition easier than other materials. In addition, indoor cooking further enhances fire risk.

Health Education Intervention

Different types of fires require different management, therefore we should respond accordingly:

- Water can only be used to put out a fire that is caused

by ordinary combustibles like wood-made materials.

- Do not use water to put out a fire that is caused by flammable liquids and gases such as gasoline, oils, paint or electric appliances.
- Cover your mouth and nose against smoke with wet towels and evacuate quickly.

Purpose of the Intervention

This activity aims to raise public awareness on managing simple fires and how to respond to them. Also, burns management will also be discussed.



▲ Fire management



Intervention Example: Poster

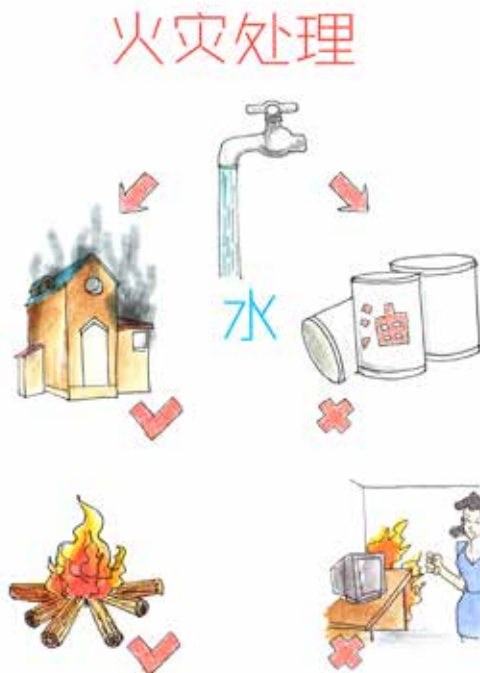
Time: 40 minutes

Materials: Poster 42-46, Props (Drawing for Smoke, Pan, Fireworks, Firecrackers, Fire, and apron)

Part 1: Fire management (I) (5 mins)

Key message: Different types of fire should be put out using different equipment.

- Escape immediately when a major fire occurs.
- In case of a small fire caused by wood burning, put it out with water as soon as possible.
- Do not use water to put out the fire that is caused by electricity, flammable liquids and gases such as gasoline, oils and paint.
- To put out an electrical fire, start by disconnecting the power source in the affected



Poster 42: Fire management with water

area if possible. Use a Class E fire extinguisher to cover the affected area. Do not use water on an electrical fire. Use a wet blanket if fire extinguisher is not available.



Poster 43: Fire management not by water

- Water can only be used to put out a fire that is caused by ordinary combustibles like wood, paper, rubber fabrics and plastics.



Poster 44: How to escape when there is a fire.

Part 2: Fire management (II) (10 mins)

Key message: Crawl down on the floor and leave the house

- Suffocation is the major cause of death in fire disasters.



Poster 45: What to do if your clothes catch fire?

- Stay calm. Crawl down below the smoke instead of walking upright and use a wet towel to cover your mouth and nose to protect against smoke.

- When the fire gets out of control, leave immediately; do not try to fight the fire.
- Once you are out of the house, stay out; do not attempt to enter a burning home to gather any possessions that have been left behind.
- When fire breaks out in an enclosed environment, one should not rush to open the windows, lest the air exacerbates the fire.

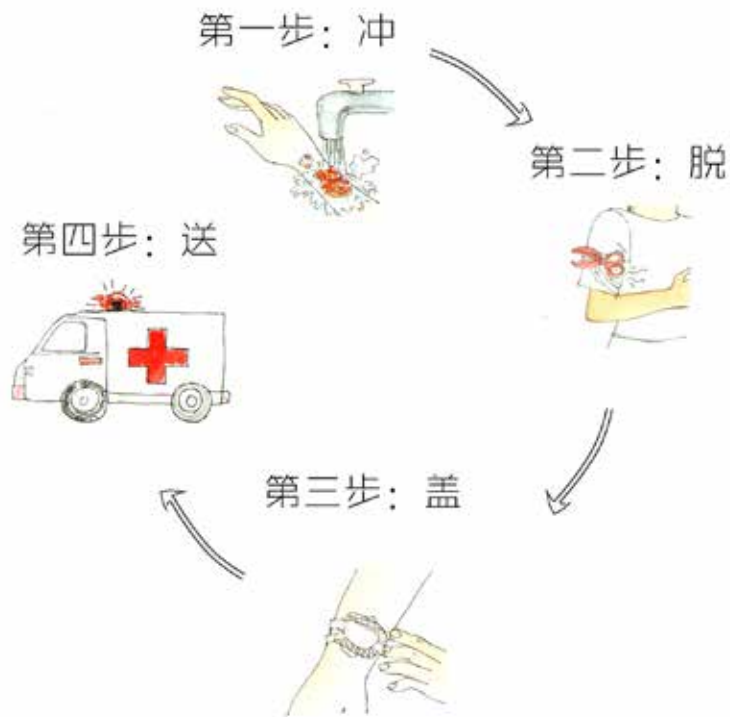
Part 3: What to do if your clothes catch on fire? (10 mins)

Key message: STOP – LIE DOWN – ROLL – COOL DOWN

- If your clothes catch fire, stop moving, gently drop to the floor and roll to smother the flames. Cool off the burns under cold running water.



烧伤处理



Part 4: Burns management (10 mins)

Key message: RINSE-CUT-COVER-TRANSFER

1. Explain burns management knowledge using leaflets.
2. Demonstrate how to manage burns wounds.

Burns management information:

Step1: Rinse the wound with running water.

Step2: Cut off clothes that cover the wound.

Step3: Cover the wound with antiseptic gauze or clean cloth.

Step4: Transfer to the hospital after emergency wound management.

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Does your residential area have frequent fire accidents?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. Is it important to know how to protect yourself during a fire?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. What should be done first to put out an electrical fire when there is no fire extinguisher?
<input type="checkbox"/>Use Water to put out the fire <input type="checkbox"/>Use blanket to put out the fire <input type="checkbox"/>Disconnect the power source <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 4. If your room catches fire, you will...
<input type="checkbox"/>Escape immediately and call for help <input type="checkbox"/>Escape after | <ol style="list-style-type: none"> gathering your possessions
<input type="checkbox"/>Try to fight the fire <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. What is the major reason for deaths caused by fire accidents?
<input type="checkbox"/>Being burnt alive <input type="checkbox"/>Smoke suffocation <input type="checkbox"/>Jumping off buildings <input type="checkbox"/>Extreme shock <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. What should be done first in handling burn wounds?
<input type="checkbox"/>Wound dressing <input type="checkbox"/>Cooling the wound with running water <input type="checkbox"/>No treatment <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 7. If a fire ever happens again, are you confident that you are able to cope?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused |
|--|--|

Post-intervention questionnaire

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 4. Is it important to know how to protect yourself during a fire?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 5. What should be done first to put out an electrical fire when there is no fire extinguisher?
<input type="checkbox"/>Use Water to put out the fire <input type="checkbox"/>Use blanket to put out the fire <input type="checkbox"/>Disconnect the power source <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 6. If your room catches fire, you will... | <ol style="list-style-type: none"> <input type="checkbox"/>Escape immediately and call for help <input type="checkbox"/>Escape after gathering your possessions <input type="checkbox"/>Try to fight the fire <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 7. What is the major reason for death caused by fire accidents?
<input type="checkbox"/>Being burnt alive <input type="checkbox"/>Smoke suffocation <input type="checkbox"/>Jumping off buildings <input type="checkbox"/>Extreme shock <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 8. What should be done first in handling burn wounds?
<input type="checkbox"/>Wound dressing <input type="checkbox"/>Cooling the wound with running water <input type="checkbox"/>No treatment <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 9. If fire ever happens again, are you confident that you are able to cope?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused 10. Please list the topics/areas that you would like to know more for the future health workshops. |
|--|---|



5.5.5 Disaster Preparedness Kits

Current Problems

In remote communities, due to poor local access, disaster preparedness kits^[10] may become essential for community survival in a disaster. When a disaster strikes, these kits play a crucial role in reducing the impact of a disaster through alleviating some of the adverse health impacts. However, we have found that many residents living in remote and natural-disaster-prone areas often underestimate the importance of the disaster preparedness kits. From various CCOUC field project investigations, less than 5% of these communities have prepared these kits, despite their disaster proneness. Their lack of knowledge on disaster preparedness may put them in greater danger when facing a natural disaster. Therefore, it is important for public health workers to raise awareness on disaster preparedness.

Health Education Intervention

Although we cannot prevent the occurrence of natural disasters, adequate disaster preparedness and effective emergency response may minimise the human impacts of disasters.

1. Disaster preparedness kits should include things that can support and maintain the basic requirements of health. Some recommended items include: water, whistle, flashlight, flint, money, identity documents, family portraits and daily or essential medication for patients with chronic diseases.

2. Disaster preparedness kits should be readily accessible (such as placing on the doorway).

Purpose of the Intervention

Participants are expected to achieve the following objectives after the intervention.

- To understand the importance and practical application of the disaster preparedness kits.
- To know how to prepare a disaster preparedness kit in case of an emergency.



▲ CCOUC disaster preparedness kit

[10] A disaster preparedness kit contains, under disaster situations, a series of items that serve to aid the self-help and mutual help process and buy more time while awaiting emergency rescue. Not only does the kit include some of the necessities (e.g. water and non-perishable food), it also contains some basic first-aid equipment and other items for daily living and self-help.

Intervention Example: Poster

Time: 30 minutes

Part 1: Why is it important to have a disaster preparedness kit? (10 mins)

Part 2: How to prepare a disaster preparedness kit? (15 mins)

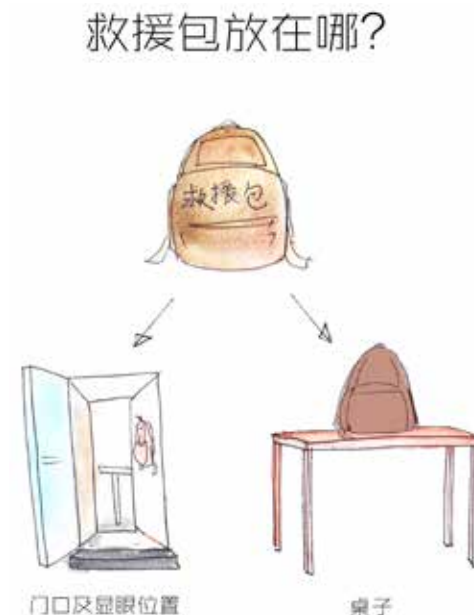
- Public health principles relating to disaster and medical humanitarian response:
 1. Ensure that everyone satisfies his/her basic needs: safe water supply and sanitation facilities, sufficient food supply and nutrition, shelter and clothing, health services as well as access to information and communication.
 2. Make close references to the local context, available community resource, knowledge level and behavioural practices to ascertain the potential health related threats.

3. Secure the resources required for achieving (1) & (2) above.

- Introduce the components in a CCOUC disaster preparedness kit and explain the functions of each.

Part 3: Where should the disaster preparedness kit be located? (5 mins)

CCOUC has noticed that quite a number of villagers hold the disaster preparedness kits so dearly that they have securely stored them up in the houses, which is not an ideal practice. Disaster preparedness kits should be kept in easily-spotted places where all people pass by, or places within easy reach. These kits will be especially useful when disasters strike or if there is a need for immediate evacuation.



Poster 47: Where should the disaster preparedness kit be located?



CCOUC Disaster Preparedness Kits

1. Water & Sanitation

Soap

It helps maintain personal hygiene and prevent diseases.



Towel

It can be used for personal hygiene; if soaked in cold water, as a cold pack for fever and injured or sore areas, and as a triangular bandage; as an arm sling; or as a pad to control bleeding.



1.5L Water Bottle

Water is essential for life. In addition to drinking, it is also used for cooking and personal hygiene. An intake of 2.5-3 liters of water per day from drinking and food meets the survival needs of an individual, while the total basic water needs including cooking and hygiene should be 7.5-15 liters per day⁽²⁰⁾.



CCOUC Disaster Preparedness Kits

2. Food & Nutrition

Non-perishable Food

Pay special attention to special groups:

- Infants
Breastfeeding is recommended.
- Pregnant women
Avoid eating uncooked food; have sufficient intake of calcium-rich and whole-grain food, vegetables, fruits, fish and meat; have adequate water intake.
- Elderly
Avoid eating high-sodium food; have sufficient intake of calcium-rich food, vegetables, fruits, fish and meat; have adequate water intake.



Dietary Guidelines for People with Chronic Conditions

- In general, avoid using additives that come with instant food (e.g. cup noodles).
- Hypertension
Avoid eating high-sodium food; have sufficient intake of fibre-rich, potassium- and magnesium-rich food, e.g. vegetables and fruits.
- Diabetes
Avoid eating high-sugar and high-fat food; have sufficient intake of whole-grain food, vegetables, fruits; eat smaller but frequent meals.



CCOUC Disaster Preparedness Kits

3. Shelter & Clothing

Emergency Blanket

1. Light and compact blanket with a heat-reflective thin plastic sheeting is designed for reducing heat loss.
2. The metallic surface of the blanket flashes in the sun. This can be used as an improvised locator beacon for searchers.
3. The blanket, if made of waterproof materials, can be used as raincoat.



Manual Dynamo Torch

Repeatedly squeeze the handle to spin the flywheel inside the torch to generate electricity for lighting.



CCOUC Disaster Preparedness Kits

Multi-purpose, Pocket-sized Knife / Card with the following uses:

1. Can opener
2. Bottle opener
3. Screwdriver
4. Cutter with sharp blade (Caution when using it)
5. Ruler with markings (both cm and mm)
6. Bit wrench with various drive bites
7. Direction indicator



Flint

To light the fire even in extreme coldness and humid environment. Sparks from a flint are effective for sending signals in darkness, even in extreme conditions.



3. Shelter & Clothing



CCOUC Disaster Preparedness Kits

4. Health Services

First Aid Equipment and Common Drugs

To provide immediate medical care for bleeding or other common diseases (e.g. flu).



Picture of Current Medications

The medication names should be included for reference.



Guide on First Aid and ORS Preparation

Detailed procedures and relevant graphic illustration will be an important reference.

CCOUC Disaster Preparedness Kits

Whistle

To facilitate the rescuers to locate the person; more effective and energy-saving than shouting.



Family Portrait

To facilitate rescuers to look for any missing family members.



Copy of Identity Document


For identification and registration purposes.



5. Information & Communication



CCOUC Disaster Preparedness Kits

5. Information & Communication	Emergency Contact Information Information including name, contact number etc., for contact tracing.	
	Others Petty cash should be prepared for emergency.	
*Other items required depend on the local culture, religious beliefs, and resource availability.		

Disaster Preparedness Kit

Water and Sanitation

- ☒ Soap
- ☒ Towel
- ☒ 1.5-Litre Water Bottle

Food & Nutrition

- ☒ Non-perishable Food
- ☒ Dietary Guidelines for People with Chronic Conditions

Shelter & Clothing

- ☒ Emergency Blanket
- ☒ Manual Dynamo Torch
- ☒ Multi-purpose Knife or Card
- ☒ Flint

Health Services

- ☒ First Aid Equipment and Common Drugs
- ☒ Picture of Current Medications
- ☒ Guide on First Aid and ORS Preparation

Information & Communication

- ☒ Whistle
- ☒ Family Portrait
- ☒ Copy of Identity Document
- ☒ Emergency Contact Information

Evaluation assessment sample: Pre & Post intervention questionnaire

Pre-intervention questionnaire

- | | |
|---|---|
| <p>1. Is the preparatory work prior to disasters related to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Is the preparatory work prior to disasters necessary?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>3. Have you prepared any disaster preparedness kit at home?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> | <p>4. Are you planning to prepare a disaster preparedness kit at home?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>5. Should medication for chronic diseases be included in the disaster preparedness kit?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> |
|---|---|

Post-intervention questionnaire

- | | |
|---|---|
| <p>1. Was the workshop meaningful to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>2. Did you understand the messages conveyed?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>3. Did the health worker(s) deliver the messages clearly?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>4. Is the preparatory work prior to disasters related to you?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>5. Is the preparatory work prior to disasters necessary?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> | <p>6. Are you planning to prepare a disaster preparedness kit at home?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>7. Should medication for chronic diseases be included in the disaster preparedness kit?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>8. Are you confident in handling and responding to its impacts when disaster strikes?
<input type="checkbox"/>Yes <input type="checkbox"/>No <input type="checkbox"/>Don't know <input type="checkbox"/>Refused</p> <p>9. Please list the topics/areas that you would like to know more for the future health workshops.</p> |
|---|---|



6

Concluding Remarks

Public health projects should always attempt to be evidence-based and take into account the local culture, traditions, religious beliefs, resource availability and level of literacy.

This manual tries to share with users some insights related to how health education can be implemented in rural China.

It is important to emphasise that villagers' autonomy to participate should be respected.

For sustainability, villagers should be encouraged to participate as far as possible during the whole process.

Project impact evaluation should always be attempted. Valuable lessons should be communicated to team members, collaborators and local communities.

Last but certainly not least, villagers are not only recipients of health projects, but also teachers and mentors. It will no doubt be an experience of humbleness for project participants to be accepted to work with a local community.

We hope volunteers who are interested in public health and disaster preparedness activities would always remember the honour to be a part of the effort to contribute to the improvement of rural communities in China.



7

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Appendices

About Wu Zhi Qiao (Bridge to China) Charitable Foundation

Wu Zhi Qiao (Bridge to China) Charitable Foundation is a charity registered in Hong Kong (no: 91/8739). Through encouraging volunteers, especially university student volunteers from Hong Kong and Mainland China, to build footbridge, village facilities, as well as conducting community enrichment projects, we hope to improve lives in the village, and more importantly, building spiritual bridges of love and care, and cementing people together.

Over the past 8 years, with the support from The Ministry of Housing and Urban-Rural Development, the Foundation had mobilised more than 3,000 student volunteers and professionals to accomplish close to 50 projects, including 39 footbridges, 2 village demonstration projects, 3 village centres and a series of community enrichment projects. Some of them were widely recognised by professional and international organisations.

As a registered charitable organisation, the operation of Wu Zhi Qiao is fully supported by donations from caring

corporations and individuals. We sincerely look forward to your generous support in different forms e.g. donations, in-kind support etc., which would mean a lot to our young generation and the needy people from rural areas in the Mainland. Please join us to develop more Wu Zhi Qiao projects, benefiting more villagers, and work together for a caring and harmonious future!

Contact us

Tel: +852 2742 4668

Fax: +852 2742 4008

Email: info@bridgetochina.org.hk

Website: www.bridgetochina.org.hk

Address: Room 2501, Times Tower, 928 Cheung Sha Wan Road, Kowloon, Hong Kong



About Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC)

Asia is the world's most densely populated continent and suffers the highest number of disasters. The health impact of disaster in Asia is exacerbated by significant resource disparity as well as a lack of research and limited technical knowledge transfer in the field of disaster risk management.

CCOUC has been established by the joint effort of Oxford University and The Chinese University of Hong Kong as a non-profit research centre to carry out research, training and community knowledge transfer in the area of disaster and medical humanitarian response in Greater China and the Asia-Pacific Region since April 2011. Housed in the CUHK Faculty of Medicine, CCOUC draws on extensive technical expertise and collaborative networks of its supporting institutions. The current agreement for this collaboration will last until 2019.

The CCOUC team comprises experts from diverse background including public health, emergency medicine, midwifery, epidemiology, surgery, clinical psychology, radiology, nutritional sciences, development studies, public policy, anthropology and sociology. Together, the team engages in multidisciplinary research and academic and regional exchange to advance the field of evidence-based medical humanitarian actions and activities.

Vision

To minimise the negative health impact of disasters experienced by vulnerable populations in Greater China and the Asia-Pacific Region.

Mission

To serve as a platform for research, education and community knowledge transfer in the areas of disaster and medical humanitarian crisis policy development, planning and response.

To achieve this mission, CCOUC

- Focuses our unique multidisciplinary public health research team on gathering and evaluating evidence to synthesise concrete knowledge and practical guidelines based on that evidence for disaster preparedness, relief, and response in Greater China and the Asia-Pacific Region;
- Provides training for both academic and frontline disaster relief practitioners;
- Establishes academic internship and fellowship programmes to support and enhance technical and research capacity in Greater China and the Asia-Pacific Region;
- Delivers technical seminars to enhance understanding and knowledge transfer of disaster and medical humanitarian response experiences; and
- Publishes materials for teaching, research and historical reference.

Contact Us

Tel: +852 2252 8850

Fax: +852 2647 6547

Email: ccouc@cuhk.edu.hk

Website: <http://ccouc.org>

Address: Room 308, School of Public Health,
Prince of Wales Hospital, Shatin, New Territories
Hong Kong SAR



Authors, Editors and Reviewers



Professor Emily Ying Yang Chan

Professor Chan received academic training in Johns Hopkins University, Harvard School of Public Health, University of Hong Kong (HKU), The Chinese University of Hong Kong (CUHK) and London School of Hygiene and Tropical

Medicine. Currently, Professor Chan serves as Professor and Associate Director (External Affairs and Collaboration) at JC School of Public Health and Primary Care of CUHK Faculty of Medicine, Centre Director at Collaborating Centre for Oxford University and CUHK for Disaster and Medical Humanitarian Response (CCOUC) and CUHK Centre for Global Health (CGH), Honorary Research Fellow (Emerging Infectious Diseases and Emergency Preparedness) at the Oxford University Nuffield Department of Medicine, Visiting Scholar at the Harvard University FXB Center and Fellow at Hong Kong Academy of Medicine. Her research interests include climate change and health, disaster and humanitarian medicine, global health, violence and injury epidemiology, health needs and programme impact evaluation of evidence-based medical and public health interventions in resource deficit settings. Professor Chan also has rich public health frontline experience.

Her professional field-based academic and technical advisory experiences span across 20 countries. Specifically, she currently runs the China Ethnic Minority Health Project (EMHP), which has trained 325 students/scholars from CUHK, HKU, Oxford University and Harvard University. The field-based programme has outreached almost 6,600 households in remote, disaster-prone, resource-deficit settings since 2009. Professor Chan has also established the CUHK Non-Governmental Organisation Fellowship in 2009 and has been in technical advisory role for World Health Organization (WHO) Headquarters and Eastern Mediterranean Regional Office (emergency health risk management), Médecins Sans Frontières (President, MSF HK 2000-2005 and as MSF public health technical advisor since 2005), OXFAM-HK (Chairperson, Program and Advocacy Committee since 2013), Radio Television Hong Kong (Humanitarian Program Advisor since 2001) and Hong Kong Observatory (Scientific advisory member), as well as for seven technical boards of health-related NGOs in Hong Kong, China and Kingdom of Bhutan. She has won a number of teaching, research and community service awards, including CUHK Faculty of Medicine Best Teachers Award (2010, 2011, 2013), 2007 Nobuo Maeda International Research Award of the American Public Health Association, 2013 CUHK Best Interdisciplinary Award of Excellence in Social Engagement, 2004 Hong Kong Ten Outstanding Young Persons Award, 2005 Ten Outstanding Young Persons of the World Award, 2005 Caring Physicians of the World and 2007 Hong Kong Humanity Award.



Crystal Yingjia Zhu

Ms Zhu received her bachelor's degree in Biomedical Engineering from Zhejiang University of China. In her volunteer experience, she found her interest in public health and obtained the Master of Public Health degree at The Chinese University of Hong Kong. She joined CCOUC in 2011 as a project officer, focusing on rural projects in China to promote disaster preparedness and key health messages. She has visited many remote rural areas to conduct needs assessment and health promotion activities, including sites in Sichuan, Yunnan, Qinghai, etc. She has also conducted research about climate change and waste management related to rural population.



Poyi Lee

Ms Lee completed her professional training in nursing and obtained her Master of Public Health degree in Hong Kong. She worked as a clinical nurse before joining CCOUC in 2010. Ms Lee currently serves as a Project Manager in CCOUC, and is mainly responsible for coordinating research and teaching activities. Her research interests include climate change and health, disaster and humanitarian medicine, health needs assessment, public health interventions and programme evaluation in resource deficit settings. Ms Lee has served as a member of the Health and Sustainability Committee of Wu Zhi Qiao (Bridge to China) Charitable Foundation since 2011. She has involved in development of health and safety strategies and provided pre-deployment training for students and volunteers about health and safety issues. She has also participated in health needs assessment and health intervention projects in Sichuan and Gansu Provinces of China.



Kevin Sida Liu

Mr Liu received his Master of Public Health from The Chinese University of Hong Kong in 2012, majoring in epidemiology and biostatistics. After graduation, he joined CCOUC as China Liaison Officer and Research Project Officer, responsible for communicating and coordinating with government organisations, project planning and personnel training. He joined the CCOUC and WZQ teams to conduct health and disaster preparedness education activities in many poor grassroots ethnic minority areas located in various provinces and autonomous regions across China, accumulating rich experience in grassroots public health works. He has considerable knowledge and understanding of the government public health and emergency response systems in China, as well as the roles played by governmental, non-governmental and academic organisations in disaster emergency response. Mr Liu is currently studying his doctoral degree in public health with Professor Emily Chan, focusing on the impact of climate change on public health. He has attended a number of academic conferences in disaster medicine

both nationally and internationally, as well as participated in the application for research funding including those from the Research for Health in Humanitarian Crisis (R2HC) of the Wellcome Trust in the United Kingdom, and the National Natural Science Foundation of China (NSFC). He has a comprehensive understanding of the status and trend in the academic disciplines of disaster medicine and climate change.



Chi Shing Wong

Mr Wong has a background in Journalism and Communication. Having worked as a journalist in a local English newspaper, he received his Master in Comparative Politics at the London School of Economics and Political Science, focusing on democratisation, ethnic politics and nationalism with regional focuses on China and Southeast Asia, and researched on political identity at the University of Oxford afterwards. Upon his return to Hong Kong, he has worked in various teaching, research and administrative positions at local academic institutions. Mr Wong currently serves as Publications Manager of CCOUC.



Kelvin Wai Kit Ling

Mr Ling has extensive exposures in health education and communication, needs assessment and evaluation in rural villages in Gansu, Guizhou, Yunnan, Qinghai, Sichuan Provinces and Chongqing Municipality of China and slums in Nairobi, Kenya. His research focuses on conducting community-based research in rural China that empowers villagers to make behaviour change decisions and enhances their health literacy. Mr Ling has a bachelor's degree in biomedical sciences from the University College London and a Master of Public Health from CUHK. He also received teacher training on professional and vocational education at the Hong Kong Institute of Education and is a registered teacher in Hong Kong. He is a field supervisor for public health students and has been lecturing and tutoring at tertiary institutes on part-time basis in health education and promotion, community nursing and service-learning, and is pursuing his postgraduate research studies in public health at CUHK.



Gloria Kwong Wai Chan

Ms Chan is a professional journalist by training. After spending years in political news reporting in Hong Kong, she joined the international medical humanitarian organisation Médecins Sans Frontières as the Director of Communications for the organisation's communication effort in Hong Kong, China and Southeast Asia. Her expertise was employed in the frontline of a number of emergencies over the world. Before joining CCOUC, she was the Chief Executive of the Hong Kong Medical Association. Ms Chan is currently a Board Member of Médecins Sans Frontières Hong Kong. Ms Chan currently serves as Assistant Director of CCOUC.



Tony Ka Chun Yung

Mr Yung obtained his Master in Nutrition and Dietetics from the University of Sydney and registered as Accredited Practicing Dietitian in Australia. He is also a Sports Dietitian and Accredited Nutritionist. He practiced in Grantham Hospital before joining the JC School of Public Health and Primary Care of CUHK in year 2003 responsible for the promotion of nutritional health. He is currently a senior lecturer responsible for teachings, tutorials and researches related to nutrition aspect of public health. His research interests include diet behaviours of vulnerable populations, nutrition issues related to disasters as well as sports nutrition.



Carol Ka Po Wong

Ms Wong is a journalist by training and has acquired a Master in International and Public Affairs. She has years of project management experience in NGOs in Hong Kong and overseas, with a focus on public health and disaster managements. Before joining CCOUC, Ms Wong had stationed in the Philippines for more than two years, where her work in the field particularly focused on slum health and disaster preparedness. This comprises preventive health, nutrition and WASH, which enables her to accumulate a wide range of practical experience in these areas. Ms Wong currently serves as Programme Manager of CCOUC.

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