Critical health literacy: a case study from China in schistosomiasis control

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SUMMARY
Health education in China has been characterized by centrally led, top-down messages and methods. This is exemplified by the Patriotic Health Campaign, established in the 1950s and still operating today. Through this campaign, millions of Chinese were told what they should and should not do in order to improve their health. These traditional public health efforts have been successful in contributing to a reduction in some infectious diseases, but have had limited impact on others, notably in the control of schistosomiasis. This paper argues that health education in China has to further evolve to respond to social and political changes over the years. Health literacy is introduced as a new concept which implies a more participatory and more locally empowering approach to health education and communication than was typical of past efforts. Improving the control of schistosomiasis is used as a case study to illustrate how improved health literacy can lead to improved health outcomes. It is argued that health education programs aimed at increasing critical health literacy involve more than simply the transmission of health information. They should also provide information on social, economic and environmental determinants of health as well as assessment of opportunities to promote policy and organizational change. The paper concludes by outlining some of the challenges involved in adopting this new approach, indicating that it will require formative research and the re-training of health educators.

Key words: China; health education; health literacy; schistosomiasis

INTRODUCTION
Health education encompasses opportunities for learning designed to improve health literacy, including increased knowledge and the development of life skills that lead to the improvement of individual and community health. This definition of health education emphasizes the distinction of its activities from others, e.g. social mobilization and advocacy in health promotion. Social mobilization focuses on strengthening community action and re-orienting health services for a more supportive environment for health, whereas advocacy is designed to gain political commitment, policy and systems support, and social acceptance for a particular health goal or program. Health literacy is defined by The World Health Organization (World Health Organization, 1998) as: The cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health.

This paper discusses three types of health literacy and uses a case study of schistosomiasis in China to illustrate how health literacy can be increased for the improvement of individual and community health.

CHANGING SOCIAL CIRCUMSTANCES AND HEALTH EDUCATION IN CHINA
In the 1950s, the Chinese government started a social movement called the Patriotic Health Campaign headed by the Patriotic Health
Campaign Committee (PHCC) at both the national and provincial/city level. The health education curriculum was determined by the National PHCC and then taught to the people. Thus, millions of Chinese were told what they should and should not do in order to improve their health. Health education programs were designed to achieve narrowly defined goals related to increased knowledge and understanding. As a part of the campaign, the government declared a war against ‘four devils—flies, mosquitoes, mice and sparrows’. People were instructed to clean their houses, schools and workplaces, as well as to practice personal hygiene techniques every day. The PHCC committees organized inspections to check the implementation of these actions, and appraisal and encouragement were given to those who implemented these actions well. This kind of campaign continued throughout the 1960s and 1970s in China as the dominant form of health promotion. The main outcome was the control of serious epidemics of infectious diseases, e.g. cholera, plague and malaria.

Since the early 1980s, mainly due to the influence of international health organizations, e.g. WHO and UNICEF, two-way communication involving audience participation has been introduced to the public health movement, particularly in the fields of maternal and child health (MCH) and the expanded program of immunization (EPI). Although two-way communication and more sophisticated health education practices were integrated into health education programs, the paradigm was still to teach the same core messages and skills which were determined at the national level and disseminated to the target population. The main work of the PHCC was still limited to disseminating commands and organizing inspections.

Since the early 1990s, government decentralization has drastically increased in China and marketing principles have become more dominant in society. However, these changes have not been accompanied by an improvement in health. The World Development Report proposed by the World Bank has declared that there is a need for ‘investing in health’ in China (World Bank, 1993).

Now China faces further challenges in public health. Pollution has increased tremendously, health inequality has increased, and the maintenance of EPI and primary preventive health care has become more difficult due to the lack of financial support. While the older infectious diseases are still threatening people’s health in most parts of China, particularly in the economically underdeveloped areas, newer infectious diseases, e.g. STDs and HIV are becoming serious public health problems as well. Mortality due to chronic diseases and cancer has become the leading cause of death in the overall population. Many previously controlled infectious diseases, e.g. TB and schistosomiasis, have begun to rise again. Social change is required within health education in China in order to address these problems. The traditional top-down campaign is unsuccessful even with the use of more sophisticated health education concepts mentioned earlier.

A CASE STUDY IN SCHISTOSOMIASIS CONTROL

Schistosomiasis has been a serious endemic infectious disease throughout history in China. In its various forms, it frequently leads to serious physical, social and economic disability and, together with the other major parasitic diseases, can seriously weaken the productive capacity of developing countries (World Health Organization, 1990). Schistosomiasis is an intestinal parasitic infection caused by S. japonicum which requires snails to complete their life cycle in order to cause disease. Eggs are discharged from infected animals into water supplies. The eggs then become ‘miracidia’ which enter the snail’s body and turn into ‘cercariae’. It is the cercariae that enter the body of humans and animals and cause the disease. This occurs when contact is made with the contaminated water.

According to the national epidemiological survey carried out in 1989 there were ~1.5 million people and 200 000 buffaloes infected with schistosomiasis in China [Jia, 1993; in (Wang, 1997)]. Over 63 million people in China live in endemic areas and are still at risk of the infection [Chen, 1995; in (Wang, 1997)].

In the 1950s and 1960s, the Chinese central government and the National PHCC declared that snails were responsible for the transmission of schistosomiasis. Therefore, in the schistosomiasis epidemic areas, mass campaigns were implemented to eliminate snails with poisonous drugs provided by the government. However, this strategy only achieved limited success in eliminating disease [Jia, 1993; in (Wang, 1997)].
In the late 1970s and early 1980s, morbidity due to acute schistosomiasis in China was still increasing in many endemic regions. In the early 1990s, with the help of The World Bank, the National Office for Endemic Disease Control started a large campaign in these endemic areas. The Bureau of Endemic Diseases Control in China issued the ‘criteria for control and elimination of schistosomiasis in China’. Health education programs emphasized the importance of behaviour change through dissemination of scientific knowledge and skills training.

However, evaluation again showed minimal success in preventing children and adults from coming in contact with contaminated water (Wang, 1997). Villages did not take the precautions, e.g. disposing of human excreta and treating infected animals, seriously (Wang, 1997). Nearly all the villagers in the region were aware of the risk of schistosomiasis and had the knowledge and skills to perform the required preventive actions, yet they did not have the motivation to change their traditional lifestyle. They relied on the government attempts to control the problem and had already accepted the disease as part of their life and destiny. The Chinese felt powerless to the threat of schistosomiasis. At this point, health educators became confused and frustrated as to their role and the success of schistosomiasis control. It seemed that providing information to these people only furthered their feelings of hopelessness in controlling the disease.

In order to respond to the social environment in these areas of China, there is a need for new approaches to health promotion in China. It is argued that this new approach should be bottom-up rather than top-down, should be participatory and empowering rather than pre-determined, and should be fully respectful of local needs. In addition, it should address the full range of health determinants rather than be limited to the compliance with a few defined preventive behaviours.

HEALTH LITERACY TO IMPROVE HEALTH STATUS—BASIC, FUNCTIONAL OR CRITICAL?

As stated in the Introduction, health literacy is defined by WHO as:

The cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health (World Health Organization, 1998).

There are three types of health literacy: basic, functional and critical (D. Nutbeam, personal communication). Basic health literacy implies a fundamental understanding of a health problem and the ability to comply with prescribed actions to remedy the problem. Functional health literacy involves more advanced knowledge and skills to function in everyday society and the ability to seek out information in order to respond to changing needs. The most advanced level of health literacy is critical health literacy. It implies a significant level of knowledge, personal skills and confidence to manage one’s health, and the ability to take action to change the determinants of health in the environment.

The goal of The Patriotic Public Health Campaign in China in the 1950s and 1960s was the compliance of narrowly defined goals related to improving health knowledge and understanding. In this case, a person with basic health literacy is the one who has knowledge about the elimination of snails as a cure for schistosomiasis. Information about carriers and transmission of the disease, as well as preventive strategies, is not understood.

More recently, health education programs in China have used social marketing to increase health literacy, but are still limited to increasing compliance rates. Mass media campaigns are carried out and audio/visual materials are used to impart certain knowledge and obtain compliance of particular behaviours. From the professionals' point of view, these health behaviours are simple and easy to perform. These methods are aimed at promoting functional health literacy and a limited amount of two-way communication is used. However, they presume that health is highly valued and that people are eager and willing to change their behaviour in order to improve their health. In the case of schistosomiasis control, health education programs were limited to the compliance of avoiding the contaminated water, the treatment of patients and properly disposing of excreta. Little attention was paid to helping community members understand the importance of health and address social determinants of health in their own environment.

Social marketing, although it may increase functional health literacy, does not reach the desired level of critical health literacy. Freire discusses three major differences between education and a term he calls ‘the advertising slogan’ (Freire, 1970a).
Health education consists of a wide range of information. Social marketing consists of a single significant message that is presented to the people.

Health education is a problem-solving process to be undertaken by the educator and community together. Social marketing sends a message that all people are expected to interpret in the same way to achieve desired results.

Health education involves a high level of communication. Social marketing involves a one-way message with no feedback from those receiving the message.

According to Freire, social marketing manipulates people rather than educates them. People are treated as a homogenous group that all share the same environment and will respond appropriately to the same messages. This is not a highly successful initiative and should be replaced by more participatory education designed to reach a level of critical health literacy in order to alleviate problems, e.g. schistosomiasis.

Critical health literacy is also different from the conventional meaning of literacy. The US Office of Education (1986) defined literate persons as those who have acquired the essential knowledge and skills in reading, writing and computation required for effective functioning in society, and whose attainment of such skills makes it possible for them to develop new attitudes and to participate in their community (McLaren and Leonard, 1993).

If we transpose this perspective into health literacy, then it would be defined as the essential knowledge and skills required in their society to participate in health-related behaviours in their community. This most resembles our definition of functional health literacy and is different from the WHO definition which describes a more critical level of health literacy.

Referring to schistosomiasis control, recently the PHCC administered a health education program aimed at changing behaviours of people living in the epidemic area. Three preventive healthy behaviours were proposed for the residents: avoid contact with contaminated water; comply with treatment for prevention and infection; and properly dispose of excreta. Knowledge about the dangers of unhealthy behaviours is provided and disseminated. The knowledge and skills are pre-determined by professionals in order to perfect the three behaviours recommended by the PHCC with a presumption that people simply lack the knowledge to perform these healthy behaviours.

Lanksher (Lanksher, 1993; in McLaren and Leonard, 1993) discussed the differences between critical literacy and functional literacy.

(1) Functional health literacy is plainly underwritten by the assumption that humans are adaptable, manageable beings. Functional health literacy seeks a comprehensive range of knowledge and skills that will help illiterate people at the bottom of the social ladder operate more effectively within the existing health care system, as well as within existing economic, social and legal structures.

(2) Functional health literacy reflects the assumption that people are eager for the health information being provided and will change their behaviour accordingly to improve their health.

(3) Development and implementation of a health education program to increase functional health literacy does not promote dialogue. Directions are given and expected to be followed.

In contrast, the WHO definition of health literacy is a critical perspective with the emphasis on empowerment and liberation. A person with critical literacy is the one who is empowered with self-efficacy to use the information to engage in healthier behaviours for their own interests as well as to change unfavourable environmental conditions to further promote health. As suggested by Paulo Freire, it requires the educator to undertake dialogue with the target group (Freire, 1970b). The people should decide, with the assistance of the educator, what knowledge and skills are essential that reflect the experiences in their environment and promote changes for healthier lifestyles. In China, community members should be included in the process of identifying behaviours which increase the risk of schistosomiasis infection and in the development of solutions that take into consideration local norms, beliefs and practices.

In summary, Table 1 shows the three different types of health literacy. Basic health literacy is a traditional, top-down approach to the dissemination of information regarding ideal health behaviours. Functional health literacy, which is also top-down, involves more educator training and skills development. Critical health literacy is a bottom-up approach to health promotion and is more participatory in nature. It empowers people to seek and analyse health information to
CRITICAL HEALTH LITERACY AS A BENCHMARK TO NEW HEALTH EDUCATION ACTIVITIES IN CHINA

China is changing from a strongly central-governed society to a more local-oriented group of communities with different values and perspectives, and from a state planning economy to a mixed market economy. Challenges in public health require new methods of health education aimed at the achievement of critical health literacy rather than basic or functional health literacy.

However, health educators in China, influenced by the tradition of Patriotic Public Health Campaign, lack the knowledge and skills to undertake participatory education in order to achieve critical health literacy in the population. Formative research is needed to explore the practice of an empowering education process, especially in the underdeveloped areas. The World Health Organization’s definition of health literacy could serve as a benchmark to guide researchers and public health professionals.

Health literacy should be population and context specific. With this in mind, we would not have to develop an instrument to measure health literacy universally, but rather, the measurement would be left to each individual health program or community to satisfy their local needs.

Health educators in China are frustrated with the traditional approaches used in health education over the last several decades. They are eager and are willing to try new approaches to prevent and control schistosomiasis. Because schistosomiasis is endemic throughout China, it is conducive to research and education as opposed to diseases affecting mobile populations, e.g. migrants or sex workers.

In order to increase health literacy for the purpose of schistosomiasis control, the emphasis should be on the behaviours of people, rather than snails, as being responsible for the transmission of the disease. The following dimensions with critical health literacy as its benchmark should be examined.

(1) The measurement of health literacy in a specific context and the use of concepts, e.g. self-efficacy and decision-making.
(2) The use of WHO’s health literacy definition as a benchmark to begin the transition from traditional methods of health education to more participatory and empowering methods.
(3) Knowledge and skills to be mastered in order to facilitate the promotion of health literacy.
(4) The differences between the bottom-up empowerment process and the traditional top-down education.
(5) Integration of other health promotion strategies, e.g. advocacy and social mobilization, and theories, e.g. stages of behaviour change and the diffusion of innovation.

Formative research and the development of specific criteria for health literacy in schistosomiasis control in Chinese communities should be undertaken, including monitoring and

| **Table 1:** |  |
| --- | --- | --- | --- |
| **Approach** | **Basic** | **Functional** | **Critical** |
| **Contents** | Top-down | Top-down | Bottom-up |
| **Method** | Limited in the pre-determined knowledge | Limited in the pre-determined knowledge and skills | Unlimited; allow audience participation to decide |
| **Objective** | Compliance of pre-determined, simple behaviour | Compliance of pre-determined behaviour in an ideal environment | Self-determined action for participants with perceived benefits in changing their health behaviours |
| **Educator’s role** | Knowledge teacher | Knowledge and skills trainer | Facilitator and partner |
| **Preparation of the educator** | Limited knowledge, and advertising or propaganda skill | Limited knowledge and skills in the subject and communication in class training | Knowledge and skills to address all determinants of health in the people's environment |
evaluation of health education components. It is important that development of measurement tools coincides with the development of education methods and materials.

CONCLUSION

In response to the changing social environment in China, there is a need to increase critical health literacy in order to successfully address problems, e.g. schistosomiasis. To undertake this new approach requires formative research and the re-training of health educators. Health education programs aimed at increasing critical health literacy involve more than simply the transmission of health information which has been the focus of health education in China in the past. It should also provide information on social, economic and environmental determinants of health as well as assessment of opportunities to promote policy and organizational change. It is within our capabilities to raise the health literacy of communities in need such as those affected by schistosomiasis in China. A commitment to working with communities to prevent and control disease that incorporates empowerment and the improvement of health literacy promises to improve the lives of those in China that suffer needlessly from disease.

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