REPORT

The 4th JICA Training Course, Community-based Cancer Prevention (Epidemiological Approach)

Toshiro Takezaki

Introduction

The present training course was programmed by the Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute, Japan, and has been annually conducted since 1999, supported by the Japan International Cooperation Agency (JICA) (Takezaki 2001). This course targets doctors and public health workers who are responsible for community-based cancer prevention in developing countries to promote comprehensive procedures focusing mainly on primary but also including secondary prevention of cancer.

Cancer is the leading cause of deaths in developed countries, while communicable diseases are still major causes of mortality in developing countries (WHO 2000). However, the relative burdenn of cancer deaths is also increasing in developing countries, with economic development and elongation of the life span (Walgate 1984; Chackiel 1999). Boffetta and Parkin have estimated cancer to account for 13 percent of the annual deaths in adults of developing countries (Boffetta and Parkin 1994). Limitations of medical facilities and equipment in developing countries underly the necessity to stress prevention as an indispensable measure for cancer control (Mikheev et al. 1994). However, human resources concerning cancer prevention are limited, and encouragement should be given as the first priority as regards to cancer prevention.

The Japanese Government extends official development assistance (ODA) to developing countries to support self-help efforts that will lead to economic progress and a better life for their citizens. Since its foundation in 1974, JICA has implemented Japan's technical cooperation under the ODA programme. Currently, JICA conducts such activities as training, dispatch of experts, provision of equipment, project-type technical cooperation, development studies, dispatch of cooperation volunteers (JOCV), and survey and administration of capital grant aid programs. The present training program for overseas participants is one of JICA's fundamental technical cooperation activities for developing countries. Participants come from overseas in order to obtain knowledge and technology in a wide variety of fields. The objectives of the JICA training programs are: 1) to contribute to the development of human resources who will promote the advancement of developing countries, and 2) to contribute to the promotion of mutual understanding and friendship.

The present report concentrates on revised contents with this 4th course and includes a commentary on its advantages and disadvantages.

Asian Pacific J Cancer Prev, **3**, 189-194

Requirement for Application

Course participants were nominated by their governments in accordance with appropriate criteria and selected by JICA. Inclusion criteria for application are: 1) be a doctor or person who is currently engaged in public health service, and also responsible for community-based cancer prevention activities; 2) never have participated in a public health related training course in developed country such as Great Britain, United States, Australia, etc.; 3) be under forty years of age; 4) have basic skills for using a computer; and 5) a sufficient command of spoken and written English. A high TOEFL score has been required since 2001. Persons serving in the military are excluded. Applicants were also requested to submit completed questionnaires and a country report with their application documents.

Time Schedule

The first brief announcement of the present course was made through the list of all training courses of JICA that are delivered to the countries with which Japan has technical cooperation by JICA offices or Japanese embassies in July 2000. The government of each country makes priorities for courses and submits a list which is sent to the headquarters of JICA, and candidate countries are then decided according to their priority and fixed numbers of participants for the course. Then, the JICA training center, Chubu International

Correspondence to: Dr. Toshiro Takezaki, Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute, 1-1 Kanokoden, Chikusa-ku, Nagoya 464-8681, Japan. Tel: +81-52-762-6111; Fax: +81-52-763-5233; E-mail: ttakezak@aichi-cc.jp

Centre (CIBI), selected the final candidate countries from the listed first candidates with suggestions of program members of the counterpart institute, Aichi Cancer Center Research Institute, around one year before the course.

General information (GI) for application was sent to the governments of the selected countries by JICA in July-August before one year of the course. The deadline for application for acceptance in the JICA office or the Embassy of Japan was December-January. The eight-week training course was preformed from February to April, after a one week introduction into the Japanese language.

Participants

The number of participants was seven in 1999, eight in 2000, nine in 2001, and eight in 2002 (Table 1). A Brazilian observer who was a long-term trainee of JICA also attended the course in 2001. The participants in 1999 were from the Middle and South American countries, including Costa Rica, Dominican Republic, Brazil, Ecuador and Uruguay. Those in 2000 were from the East and South-East Asian, Oceania, and Middle and South American countries; Mongolia, Cambodia, Laos, Papua New Guinea, Vanuatu, Honduras and Paraguay. Those in 2001 were from the Middle-Eastern, East-European, African, and South American countries; Iran, Bosnia-Herzegovina, Lithuania, Romania, Ethiopia, Zambia, Zimbabwe and Brazil. Those in 2002 were from the Asian, Middle-Eastern, African, and Middle American countries; Malaysia, Thailand, Sri Lanka, Costa Rica, Palestine Authority and Tanzania. The total numbers of participants and countries were 33 and 24, respectively.

Participants comprised 20 males and 13 females. The age distribution ranged from 27 to 47 years, and mean age was 36.5 years. Backgrounds of participants were 31 doctors, one nurse and one health extension officer. Present employers were hospitals for ten, research institutes for eight,

Table 1. Distribution of Participants for "Community-based Cancer Prevention" by Countries and Year

	Years				
	1999	2000	2001	2002	Total
Asia					
Cambodia		1			1
Laos		1			1
Mongolia		1			1
Malaysia				2	2
Thailand				1	1
Sri Lanka				2	2
Oceania					
Papua New Guinea		1			1
Vanuatu		1			1
Middle and South America					
Costa Rica	1			1	2
Dominican Republic	1				1
Honduras		1			1
Brazil	2		1[a]		3
Ecuador	1	1			
Paraguay		2			2
Uruguay	2				2
Middle East					
Iran			1		1
Palestine Authority				1	1
Africa					
Ethiopia			1		1
Zambia			2		2
Zimbabwe			1		1
Tanzania				1	1
East Europe					
Bosnia-Herzegovina			2		2
Lithuania			1		1
Romania			1		1
Total (countries)	7 (5)	8 (7)	10 (8)	8(6)	33 (24)

[a] JICA trainee.

governmental organizations for ten, non-governmental organizations for two, and universities for three.

Course subjects

Lectures, practices and observations were programmed according to training subjects by the program members of the Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute. Following the Japanese guidance, course orientation and country report presentation, training subjects comprised: 1) outline of epidemiology; 2) details of epidemiology; 3) cancer prevention; and 4) action planning for cancer prevention. The course curriculum was annually revised with suggestions from lecturers and participants.

The training course was mainly conducted at the Chubu International Centre of JICA, Nagoya, Japan, and Aichi Cancer Center and other facilities were used according to the course programs. A field trip was scheduled to Hiroshima, Osaka, and Kyoto areas for visiting places where practical cancer prevention activities were taken place, as well as understanding Japanese culture and history.

After completing the technical training, participants were required to prepare an action plan report and present it at the Action Plan Meeting scheduled at the end of the training course. The purpose of this was to present what participants found the most interesting concerning the cancer prevention in the present course, and what could be possibly be applied in participants' own countries. At the middle and end of the training, evaluation meetings were to be held for further improvement of the present training course. Participants were also asked to submit weekly questionnaires for course evaluation.

Numbers of lectures and practices were similarly distributed in 2002 (Table 2). Computer practices were performed using a statistical package, STATA (Stata Corporation, College Station, TX). Participants were requested to prepare the recipes of their home style cooking and cook them by themselves, discussing the character of their dietary habits with lectures, in terms of cancer prevention. Planning of perspective of cancer prevention and its strategy in each country was concentrated in the last week. The most common theme at the Action Plan Meeting was cancer prevention, including risk factor control, followed by development of cancer registration or cancer research capacity.

Lecturers

A total of 25 specialist lecturers active in cancer epidemiology and prevention were recruited from 10 universities and 5 facilities. Among them, three staff of Aichi Cancer Center were involved in 13 of the total of 38 sessions (34.2%). Numbers of persons in charge of practices and observations were 26 in 2 universities, one hospital and 8 facilities, and 12 staff of Aichi Cancer Center, involved in 27 sessions of the total of 40 (67.5%).

Course evaluation

All participants, except one who had to return to the home country before the termination, responded to the request to fill in questionnaires for final course evaluation at the end of the training course. The items of this questionnaire included coverage of subjects, depth, logical order of topics, relationship of each topic to the objectives of training / study program, and balance of time allocation, and each item was evaluated to be about right or fair with 90% or more of the participants. The expected topics to be added to further programs were cancer registration, cancer screening, epidemiological methods, biostatistics, statistical practice using a computer, cancer control and computer use in the Third World, cancer treatment, observation of Japanese rural lifestyles, biomarkers, molecular epidemiology, occupational

Comments from Dr. Maruchi at the initial country report.

Table 2. Contents of the Course Program in 2002

	Number of sections[a] Lecture	Practice[b]	Contents of practice
Outline of epidemiology			
Cancer control in Japan	1	1	Observation
Historical episodes of epidemiology	1		
Global health policies	1		
An overview of epidemiological studies	1	1	Group discussion
Cause and risk	1	1	Group discussion
Details of epidemiology			
Demographic studies	1	1	Rate calculation
Human ecology and cancer variation	1	1	Group discussion
Case-control studies	1	1	Group discussion
Cohort study	1	1	Observation
HERPACC[b]	1	1	Observation
Cancer pathophysiology	1		
Diet, nutrition and cancer	1	1	Observation
Molecular epidemiology	1	1	Observation
Instruction of reporting skills	1		
Study design of intervention trials	1	1	Group discussion
Sample size calculation	1		
Data management	1		
Biostatistics	1	1	Calculation
Statistical practice with package		7	Computer
Cancer prevention			
Smoking control (Osaka)	1	1	Observation
Aichi cancer registry	1	1	Computer
Osaka cancer registry (Osaka)	1	1	Observation
Radiation and cancer (Hiroshima)	1	1	Observation
Infection and cancer	1	1	Observation
Helicobacter pylori and gastric cancer	1		
Secondary prevention of cancer	1	1	Observation
Evaluation of cancer screening	1	1	Computer
Occupational health in Japan	1	1	Observation
Epidemiology of occupational cancer	1	1	Observation
Cancer prevention in the era of health care	1	1	Discussion
Experience of Japanese diet with cooking	1	1	Observation
Introduction of diet with cooking in own country	1	1	Cooking
Medical costs for cancer treatment	1	1	Exercise
Carotenoids as biomarker	1	1	Observation
Main risk factors for cancer by site	1		
Country report		1	Presentation
Cancer prevention and its strategy	1	2	Personal discussion
		2	Group discussion
		2	Report
		1	Presentation
Course evaluation			
Weekly		(8)	Report
Mid-term & final		(2)	Discussion
Japanese language lesson	2		
Total	37	41	

[a] One session comprised three hours.
[b] Hospital-based Epidemiologic Research Program at Aichi Cancer Center.

cancer, oncopsychology, health promotional activity in the community, development and assessment of food questionnaire, skill of negotiation with government, and assessment of cancer control program. As regards time allocation, more discussion and practices were requested. More detailed information was obtained with weekly questionnaires.

Commentary

Prevention is an indispensable measure to control cancer not only in developed countries, but also in developing countries. The control of communicable diseases should be placed in the first priority in developing countries, while non-communicable diseases that are more common in aged population grow in importance with economic development, which is accompanied with improvement of hygienic conditions and life span (Walgate 1984; Chackiel 1999). Establishment of a cancer prevention system leads not only to provision of effective cancer control, but also to applications for prevention of other non-communicable diseases that have common risk factors.

Education and promotion activity have a great impact in cancer prevention in developing countries, where many people have less information how to prevent cancer. Therefore, community-based cancer prevention may be more suitable than high-risk strategies in developing countries (Rose 1992). Development of human resources is an essential measure and training courses on cancer prevention education as a model for nurse educators in developing countries were also conducted in the US between 1986 and 1994 (Ash et al 1999).

The advantage of the present course is the small group-training style (Takezaki 2001). The participants can easily communicate each other and with lecturers. They can compare the background of each culture by country, and hopefully then make objective observations. These differences are highlighted by the situation staying in Japan and comparisons are helpful to establish suitable methods for cancer prevention, from the ethnoepidemiological point of view (Tajima and Sonoda 1996; Last 2001). Furthermore, we introduced many practices that were helpful for understanding contents of lectures.

However, the present training approach does have its disadvantages. It requires standardization of training contents, while background of knowledge and experiences on cancer prevention, lifestyles, and the priority of cancer prevention differ between participants and countries. Extra lectures and practices can partially reduce the gap, but there is a limitation to the amount of training which can be offered. To minimize discrepancies, we planned to concentrate countries with similar cultures in each course. However, in practice this proved difficult to implement, because of the selection system of JICA and the priorities for courses decided by the government of each country. Further improvement of the method to select the candidate countries according to the priority of cancer prevention is required.

In summary, the present course provides one step towards cancer prevention in developing countries. This small step is expected to contribute to further step and development of human resources in each country. The course is again planned to be held in 2004. The author welcomes participants to share in opportunities to plan how to prevent cancer in developing countries.

Acknowledgements

This training course was supported by JICA, Ministry of Forging Affair, Japan. The author is grateful to Prof. Minoru Tanabe at the Kinzyo Gakuin University, Dr. Masami Nagashima at the Aichi Prefectural Government, Dr. Kunio Aoki at the Nagoya Public Health Institute, Profs. Yoshiyuki Ohno and Atsuko Aoyama at the Nagoya University School of Medicine, Prof. Shinkan Tokudome at the Nagoya City University Medical School, Profs. Yoshinori Ito and Yuichiro Ono, and Dr. Tsutomu Yoshida at the Fujita Health University School of Health Science, Prof. Shogo Kikuchi at the Aichi Medical University School of Medicine, Prof. Hiroshi Ogawa at the Aichi Mizuho College, Prof. Ikumi Kitagawa at the Nagoya Seirei Junior College, Prof. Hiroyuki Shimizu

Participants at computer practice.

at the Gifu University School of Medicine, Prof. Haruhiko Sugimura at the Hamamatsu University School of Medicine, Ex-Prof. Nobuhiro Maruchi at the Shinshu University School of Medicine, Drs. Akira Oshima, Hideaki Tsukuma, and Wakiko Ajiki at the Osaka Medical Center for Cancer and Cardiovascular Diseases, Dr. Masakazu Nakamura at the Osaka Medical Center for Health Science and Promotion, Drs. Kei Nakachi, Saeko Fujiwara and Eric Grant at the Radiation Effects Research Foundation, Prof. Takesumi Yoshimura at the University of Occupational and Environmental Health, Dr. Malcolm A Moore at the Asian Pacific Organization for Cancer Prevention Training Center, Dr. Hiroki Kataoka at the Aichi Prefectural Asuke Public Health Center, Dr. Kazuo Ozawa and Ms. Yoko Sato at the Aichi Red Cross Blood Center, Dr. Masahiro Goto at the Asahi Labor Accident Hospital, Mr. Tomoyuki Kato at the Shinmeikosan Co., LTD, Drs. Kazunori Ohashi, Akira Matsuura, Yasuaki Arai, Kiyoshi Matsueda, Nobukazu Huwa, and Yukio Uchiyama at the Aichi Cancer Center Hospital, Drs. Kazuo Tajima, Manami Inoue, Nobuyuki Hamajima, Tetsuo Kuroishi, Kaoru Hirose and Keitaro Matsuo at the Division of Epidemiology and Prevention, Aichi Cancer Center Research Institute, and Dr. Suketami Tominaga, the president at the Aichi Cancer Center for providing excellent lectures, practices and observations to participants in 2002. The author would like to acknowledge the roles of Mr. Tatsuhiko Kan, the president, at the Chubu International Centre, JICA, Ms. Hagino Noguchi, and Mr. Syunsuke Takatoi at the Programme Division, Chubu International Centre, JICA, Mss. Yasuyo Nishio, Yoko Hishida, and Azumi Tsuda, and Ms. Kiyohiko Ogino at the Japan International Cooperation Center (JICE) in their well-organized course coordination in 2002.

References

Ash CR, McCorkle R, Frank-Stromborg M (1999). Cancer prevention education in developing countries: toward a model for nurse educators. *Cancer Nurs*, **22**, 358-69.

Boffetta P, Parkin DM (1994). Cancer in developing countries. *CA Cancer J Clin*, **44**, 81-90.

Chackiel J (1999). Mortality in Latin America. In: Department of Economic and Social Affaires, Population Division, Health and Mortality Issues of Global Concern. Proceedings of the Symposium on Health and Mortality. United Nations, NY, pp 132-157.

Last JM (2001). A Dictionary of Epidemiology, Fourth edition. International Association of Epidemiology, Oxford University Press, NY.

Mikheev MI, Kurppa K, Takala J, Matos E, Partensky C (1994). International and national measures for prevention and control. *IARC Sci Publ*, **129**, 143-71.

Rose J (1992). The Strategy of Preventive Medicine. Oxford University Press, Oxford.

Tajima K, Sonoda S (1996). Ethnoepidemiology, a new paradigm, for studying cancer risk factors and prevention strategy. *Gann Mono Cancer Res*, **44**, 3-12.

Takezaki T (2001). The JICA Training Course, Community-based Cancer Prevention (Epidemiological Approach). *Asian Pacific J Cancer Prev*, **2**, 93-97.

Walgate R (1984). Cancer: poor countries hit, too. *Nature*, **308**, 764.

World Health Organization (2000). The World Health Report 2000 Health Systems: Improving Performance, World Health Organization.

Participants, lecturers and staff of JICA and JICE at the closing ceremony.