
REPORT

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

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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). The course targets doctors and public health workers who are responsible for community-based cancer prevention in developing countries to promote comprehensive measures, focusing on both primary and secondary prevention against cancer.

Neoplasia is the leading cause of deaths in developed countries, while communicable diseases continue to contribute as major causes of deaths in developing countries (WHO, 2000). However, the relative importance of cancer deaths is increasing in the latter, with economic development and a longer life span (Walgate, 1984; Chackiel, 1999). Boffetta and Parkin (1994) have estimated cancer to account for 13 percent of the annual deaths in adults of developing countries. Limitations of medical facilities and equipment in developing countries means that an emphasis on prevention is indispensable for cancer control (Mikheev et al. 1994). However, the necessary human resources remain limited, and encouragement of their development should be given the first priority for effective 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 the citizens of those countries. 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), survey and administration of capital grant aid programs. The present training program for doctors and public health workers from overseas is one of JICA's fundamental technical cooperation activities for developing countries. Participants are invited to attend for two months in order to obtain knowledge and technological expertise in a wide variety of fields. The objectives of the JICA training program are: 1) to contribute to the development of human resources and thereby promote the advancement of developing countries; and 2) to enhance mutual understanding and friendship. The present report details the contents of this course with commentaries on perceived advantages and disadvantages after three years experience.

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Requirements for Applications

Course participants were nominated by their governments in accordance with the set criteria and then 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 previously participated in public health related training courses in developed countries such as Great Britain, the United States, or Australia; 3) be under forty years of age; 4) have basic skills in computer usage;

and 5) have a sufficient command of spoken and written English. A reasonable TOEFL score has been required since 2001. Individuals serving in the military are excluded. Applicants are also requested to submit completed questionnaires and a country report with their application documents.

Time Schedule

General information (GI) for applications has been annually sent to the governments of selected countries by

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JICA in July-August. The countries are selected by JICA with suggestions from program members of the Aichi Cancer Center Research Institute two years before each course. The deadline of applications for acceptance in the JICA office or Japanese Embassies is December-January. The eight-week training courses have all been preformed from February to April, after a one week introduction to Japan and the Japanese language for guidance.

Participants

The number of participants was seven in 1999, eight in 2000, and nine in 2001 (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 Caribbean and Central and South American countries, Costa Rica, the Dominican Republic, Brazil, Ecuador and Uruguay. Those in 2000 were from East and South-East Asia, Oceania, and again Central and South America - Mongolia, Cambodia, Laos, Papua New Guinea, Vanuatu, Honduras and Paraguay. In 2001 the participants were from the Middle-East, Eastern Europe, Africa, and South America - Iran, Bosnia-Herzegovina, Lithuania, Romania, Ethiopia, Zambia, Zimbabwe and Brazil. The total number of participants and countries so far are twenty-five and nineteen, respectively.

Participants comprised 14 males and 11 females. The age

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

	Year			
	1999	2000	2001	Total
Asia				
Cambodia		1		1
Laos		1		1
Mongolia		1		1
Oceania				
Papua New Guinea		1		1
Vanuatu		1		1
Central and South America				
Costa Rica	1			1
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
Africa				
Ethiopia			1	1
Zambia			2	2
Zimbabwe			1	1
Eastern Europe				
Bosnia-Herzegovina			2	2
Lithuania			1	1
Romania			1	1
Total (countries)	7 (5)	8 (7)	10 (8)	25 (19)

^a JICA trainee.

distribution ranged from 27 to 47 years, and the mean age was 36.6 years. Backgrounds of participants were 23 doctors, one nurse and one health extension officer. Present employers were hospitals for nine, research institutes for seven, governmental organizations for six, non-governmental organizations for two, and one was a university employee.

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 Japanese guidance, course orientation and country report presentations, 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 taking into account suggestions from the lecturers and participants.

The training course was mainly conducted at the Chubu International Centre of JICA, Nagoya, Japan, and the Aichi Cancer Center, with other facilities 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 taking place, as well as to promote understanding of Japanese culture and history.

After completing the technical training, participants were required to prepare action plan reports and present these at the Action Plan Meetings scheduled at the end of the training courses. The purpose of these meetings was to present what participants found the most interesting theme concerning cancer prevention covered in the course, and how it could possibly be applied in their own countries. At the middle and end of the training, evaluation meetings were held for further improvement of the training course. Participants were also asked to complete weekly questionnaires for course evaluation.

The number of lectures and practices was similarly distributed in 2001 (Table 2). Computer practice was performed using the statistical package, STATA (Stata Corporation, College Station, TX). As an aside to the nutrition coverage, participants were requested to prepare recipes for their own home style cooking and prepare dishes themselves, discussing the character of their dietary habits in terms of cancer prevention. Planning of perspectives for cancer prevention and actual strategies in each country was concentrated in the last week. The most common theme at the Action Plan Meeting was primary cancer prevention, including risk factor control, followed by development of cancer registration and cancer research.

Lecturers

Experts were recruited from 11 universities and 5 facilities to give 25 specialist lectures on cancer epidemiology and prevention. Among them, four staffs of

Table 2. Contents of the Course Program in 2001

	Number of sections ^a	
	Lecture	Practice ^b
Outline of Epidemiology		
Cancer Control in Japan	1	1
Historical Episodes of Epidemiology	1	
Global Health Policies and Their Trend	1	
An Overview of Epidemiological Studies	1	1
Cause and Risk	1	1
Details of Epidemiology		
Demographic Studies	1	1
Human Ecology and Cancer Variation	1	1
Case-control Studies	1	1
Cohort Study	1	1
HERPACC ^c	1	1
Cancer Pathophysiology	1	
Diet, Nutrition and Cancer	1	1
Molecular Epidemiology	1	1
Instruction of Reporting Skills	1	
Study Design of Intervention Trials	1	
Sample Size Calculation according to Study Design	1	
Multivariate Analysis	1	
Statistical practice using computer		6
Cancer Prevention		
Smoking Control	1	1
Aichi Cancer Registry	1	1
Osaka Cancer Registry	1	1
Radiation and Cancer	1	1
Infection and Cancer	1	1
Helicobacter pylori and Gastric Cancer	1	
Secondary Prevention of Cancer	1	1
Evaluation of Cancer Screening	1	1
Occupational Health in Japan	1	1
Epidemiology of Occupational Cancer	1	1
Primary Prevention of Cancer in the Era of Living Together	1	1
Experience of Japanese Healthy Home Style Cooking	1	1
Presentation of home style cooking in own country		1
Medical Costs for Cancer Treatment	1	1
Carotenoids as Biomarker	1	1
Main Risk Factors for Cancer by Site	1	
Action Planning for Cancer Prevention		
Perspective of Cancer Prevention and Its Strategy	1	4
Others		
Presentation		2
Japanese language lessons		2
Total	33	34

^a One session comprises three hours.

^b Eleven observations are included in practices.

^c Hospital-based Epidemiologic Research Program at Aichi Cancer Center.

Aichi Cancer Center were involved in 13 sessions of total 33 (39.4%). Number of persons in charge of practices and observations was 25 in 4 universities and 11 facilities, and 14 staffs of Aichi Cancer Center were involved in 27 sessions of the total 34 (79.4%).

Course Evaluation

All participants responded 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 in 90% or over participants. The expected topics to be added to further program were cancer registration, cancer screening, epidemiological methods, biostatistics, statistical practice using computer, cancer control and computer use



Figure 1. Participants in 1999.

in the Third World, cancer treatment, observation of Japanese rural lifestyles, and skill of negotiation with government. As regards time allocation, more discussion and practices were expected. More detailed information was obtained by weekly questionnaires.

Commentary

Prevention is a dispensable 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 hygiene conditions and life span (Walgate 1984; Chackiel 1999). Establishment of cancer prevention system leads not only to provide effective cancer control, but also to apply it for prevention against other non-communicable diseases that have common risk factors with cancer.

Education and promotion activity produce a great impact for cancer prevention in developing countries, where many people have less information how to prevent cancer.

Therefore, community-based cancer prevention may be more suitable strategy than high-risk strategy in developing countries (Rose 1992). Development of human resources is an essential and effective measure to perform it. The training course on cancer prevention education toward a model for nurse educators in developing countries have been also conducted in the US between 1986 and 1994 (Ash et al 1999).

The advantage of the present course is due to a small group-training style. The participants can easily communicate each other and with lecturers. They can compare the background of each culture by country, and objectively observe their own culture. These differences are encouraged more in the situation staying in Japan. Such a comparison is helpful to establish their unique and suitable methods for cancer prevention. The theme of action plan presentation reflected the background variations of participants. The presented themes were arranged well according to the priority on activity for cancer prevention in each country. This is one of ethnoepidemiological point of view (Tajima and Sonoda 1996; Last 2001). Furthermore, we prepared many practices that were more helpful for well-understanding contents of lectures. A small group-training style makes practices more effective.

On the contrary, the present training style involves some disadvantages. It requires standardization of training contents, while background of knowledge and experiences on cancer prevention differ between participants. These discrepancies especially emphasized in the practices with special skills, such as computer practices. Therefore, JICA supported extra lectures and practices for computer use. Another disadvantage is a lack of special researchers for promotion activity on cancer prevention in a field of public health in Japan. Such an activity play more important role in developing countries, and we need more practical sessions on promotion activity.

In summary, the present course provides one step for cancer prevention in developing countries. This small step is expected to contribute further step for cancer prevention



Figure 2. Participants in 2000.



Figure 3. Participants in 2001.

and spreads further development of human resources in each country. This course is planning in 2002 and 2003, too. The author welcomes participants to share the opportunities to plan how to prevent cancer in developing countries.

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