The 2nd Asian–Pacific Congress of Epidemiology Jointly with the 8th Scientific Meeting of Japan Epidemiological Association

(The Western Pacific Regional Scientific Meeting of the International Epidemiological Association)

CHALLENGING THE LIMITS OF EPIDEMIOLOGY
Can It Fulfill the Demands of the 21st Century ?

Date: January 28 (Wed) – 30 (Fri), 1998

Venue: The Meiji Mutual Life Insurance Company, Corporate Training Center, Tokyo, Japan

Under the Auspices of
Tokyo Medical and Dental University
Japan Epidemiological Association
International Epidemiological Association
Ministry of Education, Science, Sports and Culture, Japan

Contents

WELCOME

Heizo Tanaka, M.D.
President, The 2nd Asian-Pacific Congress of Epidemiology
Jointly with the 8th Scientific Meeting of Japan Epidemiological Association
Treasurer, International Epidemiological Association
Professor, Tokyo Medical and Dental University

January in Tokyo is cold and the weather may sometimes even include snow. This is obviously not the ideal weather, and may possibly be the worst time, for either shopping or sightseeing. Therefore for you, the conference attendees, we believe that the conference venue is probably where you would want to spend your time during your stay here. In other words, while January is not the best time for pleasure, it offers an ideal time for study.

The theme for the 2nd Asian-Pacific Congress of Epidemiology – Challenging the Limits of Epidemiology – Can It Fulfill the Demands of the 21st Century? – suggests a mandate for collective and personal professional development. The focus of clinical medicine in developed countries can no longer be limited to cure of specific diseases, but treatment must emphasize the care of the "total person". Similarly, preventive medicine, which targets each of the three major killers, coronary heart disease, stroke, and cancer, as separate concerns, has now entered a new era of focus in a comprehensive approach of prevention concerned with overall health. Public demands for improved quality of life and healthy longevity are rising. Lifestyle modification such as smoking cessation, physical activity, dietary changes, and moderation of alcohol consumption, rather than being intervention activities by medical professional, must be sublimed to a "health culture". Epidemiology must be capable of providing the scientific basis for these evolving changes.

In developing countries, robust program for reducing infant and child mortality, correcting malnutrition, and preventing acute infectious diseases and chronic infectious diseases such as tuberculosis, must also simultaneously address the prevention of non-infectious and chronic diseases. The epidemiological knowledge and experience base obtained from research in developed countries cannot be directly applied to developing countries. In addition, the need for epidemiological studies, specific to an individual country with its unique characteristics, is to be emphasized for program planning, development and execution of effective prevention strategies specific to that country.

On the other hand, we are in a time when problems relating to the environment must be approached, not from a limited regional perspective or scope, but from a global view. In addition, rather than negative approaches such as correcting atmospheric or water pollution, positive approaches to "amenity" that emphasize goals relating to improving and upgrading living quality and standards are now being required. Conventional epidemiological methodologies may possibly become nonfunctional. In this new era for epidemiology, however, the value and utility of past experience gained from population based research, rather than molecular research, become remarkably clear.

Medical research evolved during the 20th century from research on human population and individual levels, to analytical research based initially on anatomical organs, then later on tissue, cellular, molecular, and then genetic levels. As a result, the focus of emphasis became an orientation based on the physical and on disease. The tendency was for the de-emphasis of the "person". The 21st century will see the refocusing from the current micro-level to the macro-level, and there will be a need for a system that underlines the importance of an integrated or unified approach to research. Here also, the value of epidemiological research becomes clear.

The future for epidemiology, as we approach and prepare for a bright 21st century, appears rosy and limitless as to possibilities. It is my hope that this conference will provide an opportunity to both comprehensively acknowledge the fruitage of epidemiological research during the 20th century, and to also take a futuristic view of the 21st century, the portals of which are about to open.

I would also like to take this opportunity to express my heartfelt appreciation for the support provided by the Japan Epidemiological Association, Japanese Ministry of Education, Tokyo Medical and Dental University and Meiji Life Insurance Company. The members of the Japan Epidemiological Association have paid amounts equivalent to three times the usual registration fees which have allowed many epidemiologists from developing countries to be able to attend this Congress. I would like to render my gratitude to the JEA members for their generous action. We are also very pleased and honored to have the members of the Executive Committee and Regional Council from the International Epidemiological Association with us at this Congress. I would like to especially welcome and thank these special attendees.

ORGANIZATION

HONORARY PRESIDENTS

Kunio Aoki	Past President, International Epidemiological Association Professor Emeritus, Nagoya University, Nagoya, Japan President Emeritus, Aichi Cancer Center, Nagoya, Japan
Shuhei Kobayashi	Director, National Institute of Health and Nutrition, Tokyo, Japan
Yoshio Komachi	Professor Emeritus, University of Tsukuba, Tsukuba, Japan Director Emeritus, Osaka Prefectural Institute of Public Health, Osaka, Japan

PRESIDENT

Heizo Tanaka	Professor, Tokyo Medical and Dental University, Tokyo, Japan Treasurer, International Epidemiological Association

1. PROGRAM AND MANAGEMENT COMMITTEE

Takeo Nakayama (Chairperson)	Tokyo Medical and Dental University, Tokyo, Japan
Hiroko Baba	Tokyo Medical and Dental University, Tokyo, Japan
Anisul H. Chowdhury	Tokyo Medical and Dental University, Tokyo, Japan
Chigusa Date	Osaka City University, Osaka, Japan
Edward K. Fujimoto	Tokyo Adventist Hospital, Tokyo, Japan
Hiroko Iwaoka	Tokyo Medical and Dental University, Tokyo, Japan
Masako Iwaya	National Institute of Health and Nutrition, Tokyo, Japan
Yoshihiro Kokubo	Tokyo Medical and Dental University, Tokyo, Japan
Yasuhiro Matsumura	National Institute of Health and Nutrition, Tokyo, Japan
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Michiko Sugiyama	National Institute of Health and Nutrition, Tokyo, Japan
Yasuo Suyama	The Meiji Mutual Life Insurance Company, Tokyo, Japan
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Hiroshi Tsukamoto	Former The Meiji Mutual Life Insurance Company, Tokyo, Japan
Momoko Yamaguchi	National Institute of Health and Nutrition, Tokyo, Japan
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Nobuo Yoshiike	National Institute of Health and Nutrition, Tokyo, Japan
M. Mostafa Zaman	Tokyo Medical and Dental University, Tokyo, Japan
Akira Babazono	Institute of Health Science, Kyushu University, Fukuoka, Japan
Nobuyuki Hamajima	Aichi Cancer Center Research Institute, Nagoya, Japan
Akira Hata	Hokkaido University, Sapporo, Japan
Tatsuro Ishizaki	Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan
Hiroyasu Iso	University of Tsukuba, Tsukuba, Japan
Norito Kawakami	Gifu University, Gifu, Japan
Takashi Kawamura	Nagoya University, Nagoya, Japan
Masahiro Kihara	Kanagawa Cancer Center Research Institute, Yokohama, Japan
Shogo Kikuchi	Juntendo University, Tokyo, Japan
Gen Kobashi	Hokkaido University, Sapporo, Japan
Kazunori Kodama	Radiation Effects Research Foundation, Hiroshima, Japan
Norio Kurumatani	Nara Medical University, Kashihara, Japan
Shinya Matsuda	University of Occupational and Environmental Health, Kitakyushu, Japan
Katsuyuki Miura	Kanazawa Medical University, Ishikawa, Japan
Shunsaku Mizushima	Yokohama City University, Yokohama, Japan

Yoshihiko Naito	Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan
Hitoshi Nakaishi	Kanazawa Medical University, Ishikawa, Japan
Yosikazu Nakamura	Jichi Medical School, Tochigi, Japan
Akira Okayama	Shiga Medical University, Ohtsu, Japan
Kiyomi Sakata	Wakayama Medical University, Wakayama, Japan
Tomotaka Sobue	National Cancer Center Research Institute, Tokyo, Japan
Akiko Tamakoshi	Nagoya University, Nagoya, Japan
Naohito Tanabe	Niigata University, Niigata, Japan
Takeshi Tanigawa	University of Tsukuba, Tsukuba, Japan
Ichiro Tsuji	Tohoku University, Sendai, Japan
Masakazu Washio	Kitakyushu Tsuyazaki Hospital, Fukuoka, Japan
Zentaro Yamagata	Yamanashi Medical University, Yamanashi, Japan
Seiji Yasumura	Yamagata University, Yamagata, Japan
Kazuhito Yokoyama	University of Tokyo, Tokyo, Japan

2. SCIENTIFIC ADVISORY COMMITTEE

Suminori Akiba	Kagoshima University, Kagoshima, Japan
Shigeru Hisamichi	Tohoku University, Sendai, Japan
Minoru Iida	Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan
Yutaka Inaba	Juntendo University, Tokyo, Japan
Sadanobu Kagamimori	Toyama Medical and Pharmaceutical University, Toyama, Japan
Kazunori Kodama	Radiation Effects Research Foundation, Hiroshima, Japan
Masumi Minowa	The Institute of Public Health, Tokyo, Japan
Hirotsugu Miyake	Sapporo Medical University, Sapporo, Japan
Takayuki Nose	Tottori University, Yonago, Japan
Yasuo Ohashi	University of Tokyo, Tokyo, Japan
Hiroshi Ohhara	Kochi Medical School, Kochi, Japan
Yoshiyuki Ohno	Nagoya University, Nagoya, Japan
Akira Ohshima	Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan
Takashi Shimamoto	University of Tsukuba, Tsukuba, Japan
Kenji Soda	Yokohama City University, Yokohama, Japan
Takehito Takano	Tokyo Medical and Dental University, Tokyo, Japan
Shinkan Tokudome	Nagoya City University, Nagoya, Japan
Suketami Tominaga	Aichi Cancer Center Research Institute, Nagoya, Japan
Shaw Watanabe	Tokyo University of Agriculture, Tokyo, Japan
Momoko Yamaguchi	National Institute of Health and Nutrition, Tokyo, Japan
Hiroshi Yanagawa	Jichi Medical School, Tochigi, Japan
Takesumi Yoshimura	University of Occupational and Environmental Health, Kitakyushu, Japan
Yasuhito Yuasa	Tokyo Medical and Dental University, Tokyo, Japan

3. INTERNATIONAL ADVISORY COMMITTEE

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Charles du Ve Florey	Ninewells Hospital and Medical School, Dundee, UK
Salim S. Abdool Karim	South African Medical Research Council, Pretoria, South Africa
Ahmed Mandil	King Faisal University, Damman, Saudi Arabia
Jørn Olsen	Aarhus University, Aarhus, Denmark
Peter Pharoah	University of Liverpool, Liverpool, UK
Rodolfo Saracci	International Agency for Research on Cancer, Lyon, France IFC-National Research Council, Pisa, Italy
David A. Savitz	University of North Carolina, Chapel Hill, NC, USA
Chitr Sitthi-Amorn	Chulalongkorn University, Bangkok, Thailand

(Names are listed in alphabetical order)

ANNOUNCEMENT

MEETING INFORMATION

REGISTRATION DESK

The registration desk is located just inside the entrance of the building. You need not to go through registration formalities if you have already completed your registration. All meeting materials are directly shipped to you in advance, and no additional material is provided at the desk. If you register at the venue, please call at the registration desk to pay your registration fee and receive the meeting materials.

NAME CARD

The name card is included in your meeting materials. Please do not forget to bring it to the conference center. You will be required to show your name card in some occasions, e.g., to enter the building, to have a lunch, and to participate in the conference banquet. Please wear it while you stay in the conference center.

HEADQUARTERS

The headquarters is located at the room 103 on 1F.

MEETING LANGUAGE

The official language is English. Translation service is not available.

SMOKING

Smoking is not permitted in the building except in limited smoking areas.

GUIDE TO ORAL PRESENTATION

Oral presentations will be made and discussed in the main hall on B2F (see Information Map). Please be sure of the correct time of your oral presentation. Nine minutes will be allowed for each presentation and three minutes for discussion. Maximum 10 slides can be used.

EQUIPMENT
One 35 mm slide projector will be available. Overhead projector and other display equipments will not be available.

RECEPTION DESK FOR SLIDES
The reception desk for slides will be at the side of the Registration Desk on 1F. Please put your slides in the slide-holder and check the order at least 30 minutes before your presentation. After your presentation, please take back your slides from the desk.

GUIDE TO SYMPOSIUM AND SPECIAL LECTURE

Symposia and special lectures will be made and discussed in the main hall on B2F (see Information Map). Seventeen minutes will be allowed for each presentation or lecture and three minutes for discussion. Please prepare an appropriate number of slides for your presentation or lecture.

EQUIPMENT
One 35 mm slide projector will be available. Overhead projector and other display equipments will not be available.

RECEPTION DESK FOR SLIDES
The reception desk for slides will be at the side of the Registration Desk on 1F. Please put your slides in the slide-holder and check the order at least 30 minutes before the symposium or special lecture, and take them back from the desk after your presentation.

GUIDE TO POSTER PRESENTATION

Posters will be displayed in the Poster Room (room 106; see Information Map). Please set up your poster at your numbered position before 10:00 A.M. on the assigned date and remove it after 5:00 P.M. Board pins will be available in the Poster Room.

POSTER
Display Area: 90 cm (width) × 180 cm (height).
Poster including the title, author's name and institution should be prepared by yourself.

DISCUSSION
The contents of the posters will be presented and discussed during 2:00 P.M.-3:00 P.M. under chairperon's coordination. Authors will be allowed three to five minutes for presenting the content. Please be sure to be present in front of your poster during this time.

■ RELATED EVENTS

The First Japan-Korea Joint Seminar on Epidemiology (Official Language: English)

Time and Date: 1:00 P.M.–5:30 P.M. on January 30 (Fri), 1998.
Place: Room 205 on 2F

第5回JEA疫学セミナー
The Fifth JEA Seminar on Epidemiology (JEA members only. Official Language: Japanese)

日時：1998年1月31日(土) 午前9時30分～午後4時30分
場所：国立健康・栄養研究所
※参加登録受付は全て締め切りました。事前登録なしの当日参加はできません。

日本疫学会理事会
Meeting of the Board of Trustees, JEA (JEA members only. Official Language: Japanese)

日時：1998年1月27日(火) 午後5時～
場所：ホテルパークレーン西葛西
東京都江戸川区西葛西6-17-9
Tel: 03-3675-8900 Fax: 03-3675-9208

日本疫学会評議員会
Meeting of the Board of Councilors, JEA (JEA members only. Official Language: Japanese)

日時：1998年1月28日(水) 午後12時(正午)～午後12時40分
場所：3F和室大広間

日本疫学会会務総会
General Business Meeting, JEA (JEA members only. Official Language: Japanese)

日時：1998年1月28日(水) 午後1時～午後1時40分
場所：Main Hall

疫学の未来を語る若手の集い
Meeting of the Japanese Young Epidemiologists Society (JEA members only. Official Language: Japanese)

日時：1998年1月28日(水) 午後6時～午後8時
場所：Room 105 on 1F

SERVICES

INFORMATION DESK

The information desk is located at the side of the registration desk to assist participants, answer questions and solve problems concerning the conference.

MESSAGE BOARD

A message board for various announcements will be available in the vicinity of the Information Desk from January 28 to 30. Feel free to post your message.

TELEPHONE

There are several payphones in the building. They accept ¥10 or ¥100 coins and telephone cards of ¥500 and ¥1000. Credit card phone is NOT available.

How to make an international phone call from Japan

[Example] • To dial New York 001 — 1 — 212 — ++++

Access Number	Country Code (USA)	Area Code (New York)	Local Number

International Call Costs

[Example]

• To Asian countries	¥300-450/minute
• To North America	¥240/minute
• To Europe	¥380/minute
• To Russia	¥400/minute
• To Africa & South America	¥480/minute

Domestic Call Costs

[Example]

• Local call	¥10/minute
• From Tokyo to Osaka	¥10/10 seconds

CLOAKROOM

There is no cloakroom in the meeting center. Instead, several coin lockers are available. A ¥100 coin is necessary to use the locker. The coin will be returned to you when you open it. You can also use shelves at the side wall of the poster room.

CONFERENCE BANQUET

All participants registered will be invited to the Conference Banquet which will be held in the Atrium on 1F from 6:00 P.M. to 8:00 P.M. on January 29.

LUNCH SERVICE

Lunch will be served during 11:30 A.M.–1:00 P.M. on January 28–30 in the dining room. Please show your name card at the entrance of the room to have lunch.
You can also have light meals with your own charge during 2:30 P.M.–5:00 P.M. in the dining room.

COFFEE BREAK

The meeting materials include three tickets which can be used for three coffee or soft drinks. You can have any additional coffee and soft drinks with your own charge at the coffee bar which is open from 8:00 A.M. to 4:30 P.M.

SPECIAL BOOK MART

Several publishers will display and sell their books on 1F.

AROUND THE VENUE

There are few restaurants or markets around the conference center. However, you will easily find many shopping places around the Nishi-Kasai station which is about 8 min walk from the meeting center.

BANKING, CURRENCY EXCHANGE

We do not have a money exchange at the venue. We suggest you buy Yen at the exchange counter in the airport, because there is no money exchange at the venue.

PARKING

There is no parking lot at the meeting center.

TAX

Five percent consumption tax is added to all prices in Japan.

TIPPING

Personal tipping is not customary in Japan.

IMPORTANT PHONE NUMBER

Conference Headquarters (available only during the conference)
Tel: 020-242-3535 (Domestic Phone Number)

Ambulance & Fire:
119 (toll-free)

Police:
110 (toll-free)

CONFERENCE SECRETARIAT

Department of Epidemiology
Medical Research Institute
Tokyo Medical and Dental University
2-3-10 Kanda-Surugadai, Chiyoda-ku
Tokyo 101, Japan
Tel: +81-3-5280-8060
Fax: +81-3-5280-8061
E-mail: baba.epi@mri.tmd.ac.jp

ACCESS AND MAPS

The Conference Hall is at the Meiji Mutual Life Insurance Company, Corporate Training Center
Address: 2-22-3 Nishi-Kasai, Edogawa-ku, Tokyo 134, Japan
明治生命総合研修所
〒134 東京都江戸川区西葛西2-22-3
Tel: 020-242-3535
地下鉄東西線西葛西駅（北口）

From Narita International Airport to the Conference Hall

	JAPANESE KANJI If you lose your way, please show the following Kanji to any Japanese for directions.	Japanese pronunciation
1. Take the *JR train* or the *Narita Express Train* bound for Tokyo, Ikebukuro, Yokohama, or Yokosuka (1 hr ride)	JR線 東京方面行 （成田エクスプレス）	*JR Sen* *Tokyo homen yuki* *(or Narita Express)*
2. Get off at *Tokyo Station*	JR東京駅	*JR Tokyo Eki*
3. Walk from Tokyo Station to *Otemachi Station* of the *Tozai Line Subway* (10 min walk)	営団地下鉄東西線 大手町駅	*Chikatetsu Tozai Sen* *Otemachi Eki*
4. Take the Tozai Line Subway bound for *Nishi-Funabashi* (16 min ride)	西船橋方面行	*Nishi-Funabashi homen yuki*
Do Not Take the *Rapid Service Train!*	快速には乗らないで下さい	*Kaisoku*
5. Get off at *Nishi-Kasai Station*	西葛西駅	*Nishi-Kasai Eki*
6. Follow the map to *Conference Hall*	明治生命 総合研修所	*Meiji Seimei Sogo Kenshujo*

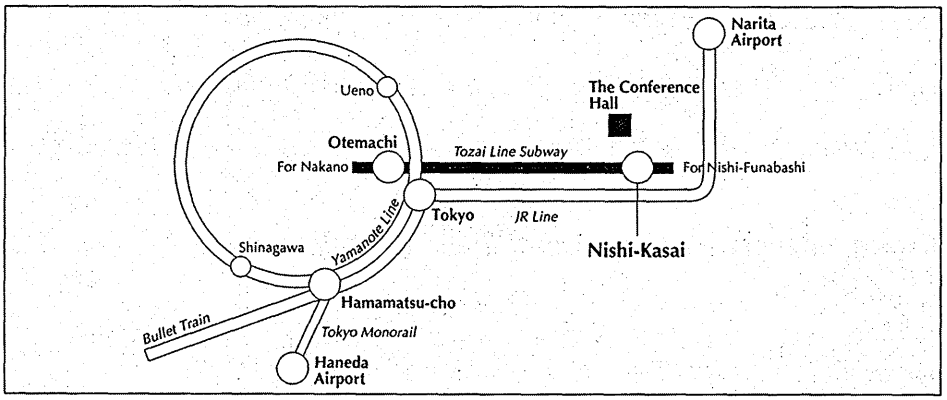
From Tokyo Station for those who arriving by Bullet Train (Shinkansen)

1. Walk from Tokyo Station to *Otemachi Station* of the *Tozai Line Subway* (10 min walk)	営団地下鉄東西線 大手町駅	*Chikatetsu Tozai Sen* *Otemachi Eki*
2. Take the Tozai Line Subway bound for *Nishi-Funabashi* (16 min ride)	西船橋方面行	*Nishi-Funabashi homen yuki*
Do Not Take the *Rapid Service Train!*	快速には乗らないで下さい	*Kaisoku*
3. Get off at *Nishi-Kasai Station*	西葛西駅	*Nishi-Kasai Eki*
4. Follow the map to *Conference Hall*	明治生命 総合研修所	*Meiji Seimei Sogo Kenshujo*

From Haneda Airport

1. Take the Tokyo Monorail bound for *Hamamatsu-cho* (20 min ride)	東京モノレール 浜松町行	*Hamamatsu-cho yuki*
2. Get off at *Hamamatsu-cho Station* which is the terminal station	浜松町駅	*Hamamatsu-cho Eki*
3. Transfer at Hamamatsu-cho to the *Yamanote Line* bound for Tokyo and Ueno Stations (Do not get on Shinagawa, Shinjuku bound trains!) (6 min ride)	山手線東京、上野方面	*Yamanote Sen Tokyo Ueno homen yuki*
4. Get off at *Tokyo Station*	JR東京駅	*JR Tokyo Eki*
5. Walk from Tokyo Station to *Otemachi Station* of the *Tozai Line Subway* (10 min walk)	営団地下鉄東西線 大手町駅	*Chikatetsu Tozai Sen Otemachi Eki*
6. Take the Tozai Line Subway bound for *Nishi-Funabashi* (16 min ride)	西船橋方面行	*Nishi-Funabashi homen yuki*
Do Not Take the *Rapid Service Train!*	快速には乗らないで下さい	*Kaisoku*
7. Get off at *Nishi-Kasai Station*	西葛西駅	*Nishi-Kasai Eki*
8. Follow the map to *Conference Hall*	明治生命 総合研修所	*Meiji Seimei Sogo Kenshujo*

Directions to Conference Site



*Eight minutes walk from North Exit of Nishi-Kasai Station of the Tozai Line Subway.
(Note: The rapid service kaisoku train does not stop at this station.)
東西線西葛西駅（北口）から徒歩8分（快速は止まりません）

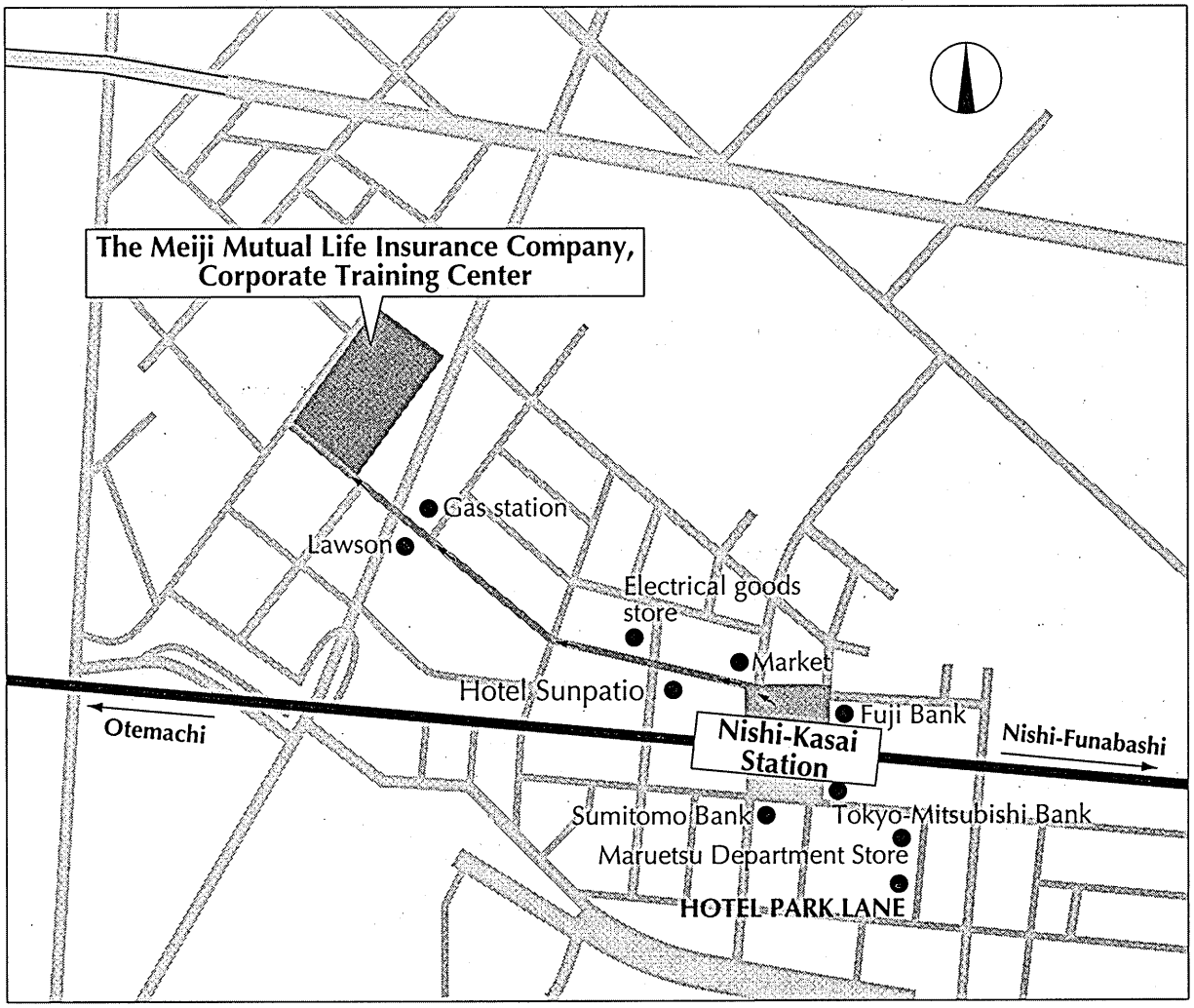
*From Tokyo Station of Shinkansen (Bullet Train), taking the *Nihon-bashi exit* located on North end of the platform is the most convenient. Walk to *Otemachi Station* of the *Tozai Line Subway* (10 min)
新幹線東京駅では、日本橋口下車、徒歩で地下鉄東西線大手町駅へ行くのが便利です。

*From Otemachi Station it takes 25 minutes to the conference site.
大手町駅から研修所まで約25分（東京：大手町間、地下鉄連絡通路約10分）

*From Haneda Airport it takes 55 minutes to the conference site (using the Tokyo Monorail, Yamanote Line and Tozai Line Subway)
羽田空港から研修所まで約55分（モノレール、山手線、東西線経由）

*From Ueno Station it takes 35 minutes using either the Hibiya or Ginza Line Subway and then Tozai Line Subway.
上野駅から研修所まで約35分（日比谷線・銀座線、東西線経由）

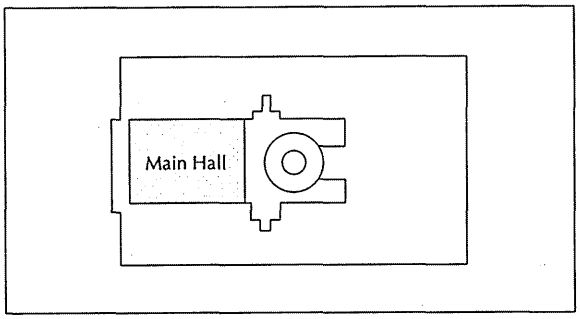
Directions from Nishi-Kasai to the Conference Site



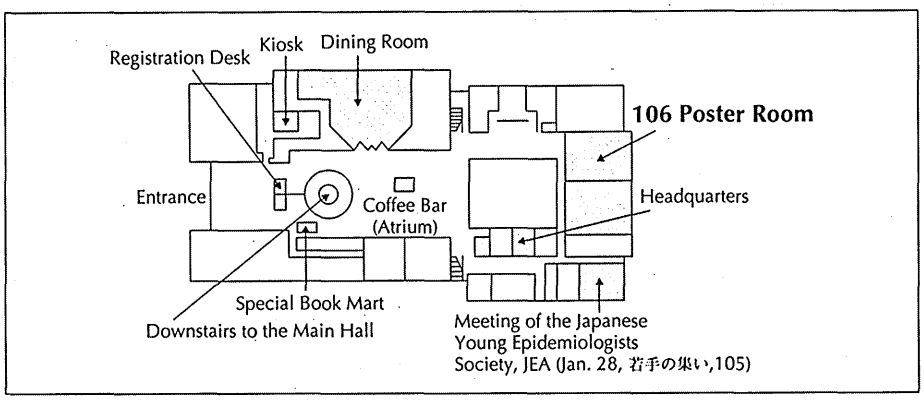
Meiji Seimei Sogo Kenshujo
明治生命総合研修所
〒134 東京都江戸川区西葛西2-22-3
Tel: 020-242-3535
地下鉄東西線西葛西駅（北口）

INFORMATION MAP (The Meiji Mutual Life Insurance Company)

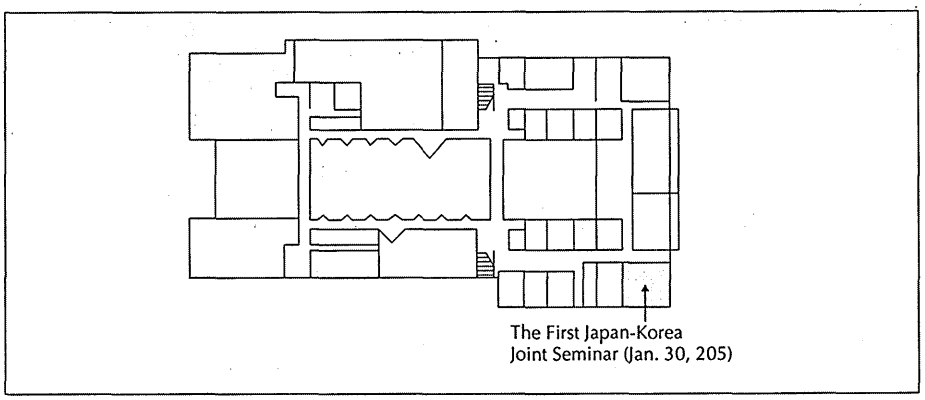
B2F



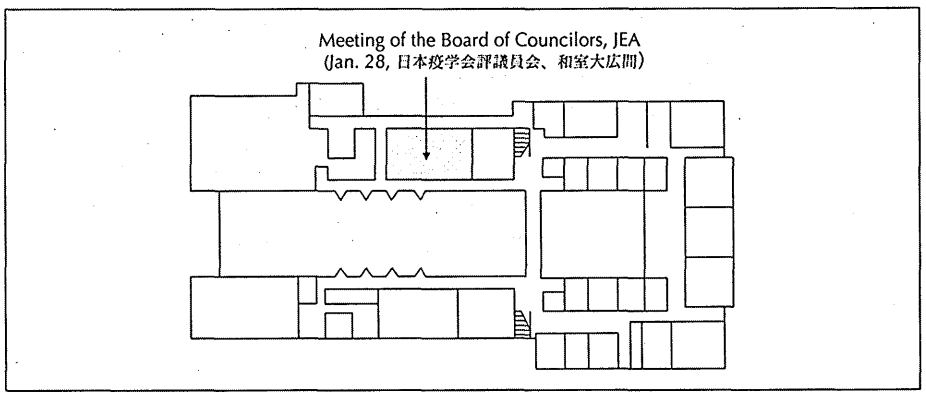
1F



2F



3F



OPENING CEREMONY

Place: Main Hall

January 28, 1998 **8:40 to 9:00**

Heizo Tanaka	President, The 2nd Asian-Pacific Congress of Epidemiology Jointly with the 8th Scientific Meeting of Japan Epidemiological Association Treasurer, International Epidemiological Association Professor, Medical Research Institute, Tokyo Medical and Dental University, Tokyo, Japan
Akio Suzuki	President, Tokyo Medical and Dental University, Tokyo, Japan
Ikuo Taniguchi	Director, Medical Research Institute, Tokyo Medical and Dental University, Tokyo, Japan
Tatsuo Sato	Dean, Faculty of Medicine, Tokyo Medical and Dental University, Tokyo, Japan
Kunio Aoki	Honorary President Past President, International Epidemiological Association Professor Emeritus, Nagoya University, Nagoya, Japan President Emeritus, Aichi Cancer Center, Nagoya, Japan
Shuhei Kobayashi	Honorary President Director, National Institute of Health and Nutrition, Tokyo, Japan
Yoshio Komachi	Honorary President Professor Emeritus, University of Tsukuba, Tsukuba, Japan Director Emeritus, Osaka Prefectural Institute of Public Health, Osaka, Japan
Hiroshi Yanagawa	President, Board of Trustees, Japan Epidemiological Association Professor, Jichi Medical School, Tochigi, Japan

(alphabetical order)

Torahiko Kon	Mayer of Shibata, Niigata Prefecture, Japan
Rodolfo Saracci	President, International Epidemiological Association International Agency for Research on Cancer, Lyon, France IFC-National Research Council, Pisa, Italy
Haroutune Armenian	Secretary, International Epidemiological Association Johns Hopkins University, Baltimore, MD, USA
Charles du Ve Florey	President Elect, International Epidemiological Association Ninewells Hospital and Medical School, Dundee, UK
Roger Detels	Member at Large, International Epidemiological Association University of California at Los Angeles, Los Angeles, CA, USA
Peter Pharoah	Editor-in-Chief, International Journal of Epidemiology University of Liverpool, Liverpool, UK
Robert Beaglehole	Councilor (Western Pacific), International Epidemiological Association University of Auckland, Auckland, New Zealand
Chitr Sitthi-Amorn	Councilor (Southeast Asia), International Epidemiological Association Chulalongkorn University, Bangkok, Thailand

Ceremony Director: Takeo Nakayama, Tokyo Medical and Dental University, Tokyo, Japan

PROGRAM

	January **28** (Wed)	January **29** (Thu)	January **30** (Fri)	
8:40	Opening Ceremony			
9:00				**9:00**
	Plenary Session I A: Cardiovascular disease 1 B: Current topics	Plenary Session II C: Cancer D: Cardiovascular disease 2	Special Lectures 9–11	**10:00**
10:40			Symposium III Acceptable and effective cardiovascular prevention programs in Asia	
	Special Lectures 1–4	Special Lectures 5–8		
12:00				
	(Meeting of The Board of Councilors, JEA)		Closing Address	**12:30**
13:00				**13:00**
	(Business Meeting, JEA)	JEA Incitement Award Winner's Lecture	**13:20**	
		Keynote Lecture		
14:00			**14:00**	
	Poster Session I	Poster Session II		
15:00			(The First Japan-Korea Joint Seminar)	
	Symposium I Country/ethnic-specific strategies for cancer prevention in Asian-Pacific region	Symposium II Can we overcome limits in epidemiology?		
17:30				**17:30**
18:00				
	(Meeting of the Japanese Young Epidemiologists, Society, JEA)	Conference Banquet		

PROGRAM (January 28, 1998)

Plenary Session I

Special Lectures 1–4

Poster Session I

Symposium I

PLENARY SESSIONS

Plenary Session I — Place: Main Hall

January 28, 1998 — **9:00 to 9:50**

A **Cardiovascular Disease 1**

Chairperson: **H. Toyoshima**
Nagoya University, Japan

A–1 An epidemiological study of cardiovascular disease among Japanese Americans in Seattle, U.S.A.: The 3rd report
T. Namekata *University of Washington, U.S.A.*

A–2 The annual health checkup data and mortality among Japanese males in a prospective cohort study
M. Tomita *Central Health Institute of East Japan Railway Company, Japan*

A–3 Body weight gain and subarachnoidal hemorrhage in Japan
S. Kikuchi *Juntendo University, Japan*

A–4 Relation between nocturnal decline in blood pressure and mortality: A population-based observation in Ohasama, Japan
T. Ohkubo *Tohoku University, Japan*

Plenary Session I — Place: Main Hall

January 28, 1998 — **9:50 to 10:40**

B **Current Topics**

Chairperson: **C.V. Florey**
Ninewells Hospital and Medical School, U.K.

B–1 Population-based case-control study of cortical cataract in Iceland
N. Katoh *Tokyo Women's Medical College, Japan*

B–2 Hearing loss on aging: The cross-sectional and semi-longitudinal study of 66,000 healthy population
F. Ando *National Institute for Longevity Sciences, Japan*

B–3 Rates of change in spinal bone density among Japanese women –A multicenter trial–
S. Fujiwara *Radiation Effects Research Foundation, Japan*

B–4 The aetiology of spastic cerebral palsy–The vanishing twin?
P. Pharoah *University of Liverpool, U.K.*

SPECIAL LECTURES

Special Lectures 1–4 **Place: Main Hall**

January 28, 1998 **10:40 to 12:00**

L–1 Global warming and health

Chairperson: **A. Ohshima**
Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan

G. Ohi *National Institute of Environmental Studies, Japan*

L–2 Healthy cities and urban policy research: Building a bridge to the society

Chairperson: **S. Akiba**
Kagoshima University, Japan

T. Takano *Tokyo Medical and Dental University, Japan*

L–3 Today's occupational health in Korea

Chairperson: **G. Endo**
Osaka City University, Japan

D. K. Kim *Pusan National University, Korea*

L–4 Epidemiology of sudden unexplained death syndrome (SUDS) in northeast Thailand

Chairperson: **Y. Nakamura**
Jichi Medical School, Japan

Y. Inaba *Juntendo University, Japan*

POSTER SESSIONS

Poster Session I **Place: Room 106**

January 28, 1998 **14:00 to 15:00**

P1 **Cardiovascular Diseases 1**

Chairperson: **M. Iida**
Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan

P1–1 Clustering of cardiovascular risk factors in a Korean urban population: Association of hypertension with obesity, abnormal gulcose, and dyslipidemia

K-S. Lee *Catholic University, Korea*

P1–2 Importance of the control for sex and age in assessing family history of chronic vascular diseases

T. Saito *National Children's Medical Research Center, Japan*

P1–3 Changes in serum cholesterol level and myocardial infarction incidence

M. Shimizu *Radiation Effects Research Foundation, Japan*

P1–4 Significance of an accumulation of arteriosclerotic risk factors in elderly people – A prospective eighteen-year follow-up study –

K. Sakamoto *Sapporo Medical University, Japan*

P1–5 Relationships between the blood coagulation-fibrinolysis system and the indicators of atherosclerosis

Y. Nishiwaki *Keio University, Japan*

P1 Cardiovascular Diseases 2

Chairperson: **T. Kawamura**
Nagoya University, Japan

P1–6 Association of risk factors for atherosclerosis and immune system

T. Tanigawa *University of Tsukuba, Japan*

P1–7 An association between the hypertension related gene polymorphisms and parameters of circulation system

Z. Yamagata *Yamanashi Medical University, Japan*

P1–8 Relationship between electrocardiographic (ECG) ischemic changes and coronary heart disease risk factors in a middle aged Japanese population

S. R. Choudhury *Shiga University of Medical Science, Japan*

P1–9 The effects of regular exercises on serum insulin levels in patients with mild essential hypertension

J-S. Wang *West China University of Medical Sciences, China*

P1–10 Lipoprotein(a) levels and apolipoprotein(a) isoforms in Japanese

T. Deguchi *Akaike Hospital, Japan*

P1 Cardiovascular Diseases 3

Chairperson: **T. Kushiro**
Nihon University, Japan

P1–11 Association of fish intake with factor VII and other cardiovascular risk factors in a Japanese population, the JMS cohort study

S. Ishikawa *University of Occupational and Environmental Health, Japan*

P1–12 Should we care about the change of risk factors to assess the risk for cardiovascular disease attack?

Y. Naito *Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan*

P1–13 Risk factors for cerebral infarction in Japan–Protective effect of beans

T. Ishibashi *Asama General Hospital, Japan*

P1–14 Risk factors for cardiovascular and all-cause mortality under the observation of stroke in a Japanese rural community

T. Yokoyama *Tokyo Medical and Dental University, Japan*

P1–15 Influence of the difference between two periods on the development of hypertension in middle-aged, urban Japanese men in 1980s and 1990s –Osaka health survey–
K. Tsumura *Osaka City University, Japan*

P1 Cardiovascular Diseases 4

Chairperson: **S. Mizushima**
Yokohama City University, Japan

P1–16 Weekly and seasonal variation in frequencies of occurrence of sudden deaths among Japanese workers
T. Hoshuyama *University of Occupational and Environmental Health, Japan*

P1–17 Regional inequality of ischemic heart disease mortality and risk factors in Yokohama, urban area of Japan
S. Mizushima *Yokohama City University, Japan*

P1–18 Baseline examinations of the Takarazuka civil servants study: Subjects and methods
N. Nishi *Takarazuka City Health Promotion Center, Japan*

P1–19 Mortality rates of subarachnoid haemorrhage in Japan, 1968–1994
Y. Imaizumi *National Institute of Population and Social Security Research, Japan*

P1–20 Study on epidemiology of hypertension in a Chinese rural community
X. Feng *Changzhi Medical College, China*

P2 Diabetes

Chairperson: **M. Nagai**
Saitama Medical School, Japan

P2–1 Factors related to changes to glucose intolerance in five years
M. Nagai *Saitama Medical School, Japan*

P2–2 Risk factor analyses and proposal of control criteria for macrovascular complication in nonobese NIDDM patients
H. Inada *National Cardiovascular Center, Japan*

P2–3 Long-term prognosis of diabetes in the general population of two rural communities in Japan–A prospective eighteen-year follow-up study–
S. Takagi *Sapporo Medical University, Japan*

P2–4 Relationship between the duration of obesity and insulin concentration: the Sotetsu study
Y. Sakurai *National Defense Medical College, Japan*

P2–5 The insulin resistance syndrome in Taiwan Chinese: the interrelationships among its components analyzed by loglinear modeling
K-L. Chien *National Taiwan University Hospital, Taiwan*

P3 Smoking and Alcohol 1

Chairperson: **S. Kikuchi**
Juntendo Universtiy, Japan

P3–1 Cigarette smoking and accelerated annual loss of forced expiratory volume in one second (FEV1) in healthy male Japanese workers
T. Nakadate *Tokyo Women's Medical College, Japan*

P3–2 Effects of alcohol consumption on risk factors and health indicators of cardio-and cerebro-vascular diseases in male Japanese workers
T. Takebayashi *Keio University, Japan*

P3–3 Relationship between passive smoking and lung cancer–effect of omitted unhealthy life-style as a confounding factor
M. Sugita *Toho University, Japan*

P3–4 The effects of smoking and alcohol consumption on the relation between body weight change and serum lipid levels
M. Koda *National Institute for Longevity Sciences, Japan*

P3–5 Smoking habit and drinking habit of residents of farming districts in Jiangxi province in China
K. Kawaminami *National Institute of Public Health, Japan*

P4 Nutrition and Diet 1

Chairperson: **S. Tokudome**
Nagoya City Universtiy, Japan

P4–1 Calibration of semi-quantitative food frequency questionnaire against 7-day weighed dietary record among Japanese dietitians
S. Tokudome *Nagoya City University, Japan*

P4–2 Comparison of specific lifestyle characteristics of Japanese SDA with baseline results of Japanese in the Monbusho large-scale cohort study
M. Kurosawa *Juntendo University, Japan*

P4–3 Serum cholesterol reduction and dietary intake changes among middle-aged women: An intervention trial
N. Kurumatani *Nara Medical University, Japan*

P4–4 Dietary calcium source and bone mineral density among premenopausal women in Yokohama
K. Tsuchida *Yokohama City Institute of Health, Japan*

P4 **Nutrition and Diet 2**

Chairperson: **N. Kurumatani**
Nara Medical Universtiy, Japan

P4–5 Reproducibility and validity of a simple food frequency questionnaire for food groups
K. Wakai *Nagoya University, Japan*

P4–6 Reproducibility and validity of a simple food frequency questionnaire for nutrient intake
I. Egami *Nagoya Bunri College, Japan*

P4–7 The four frequency categories of fruit intake as a strong predictor of plasma level ascorbic acid in middle-aged Japanese men
S. Tsugane *National Cancer Center Research Institute East, Japan*

P4–8 Validity of food frequency questionnaire with portion size information for a population-based cohort study in Japan
H. Shimizu *Gifu Universtiy, Japan*

P4–9 Cohort study on mortality and serum lipid levels in the residents of Hokkaido, Japan
K. Suzuki *Fujita Health University, Japan*

P5 **Environment and Disaster 1**

Chairperson: **Y. Motohashi**
Akita University, Japan

P5–1 Assessment of bone turnover in cadmium-induced renal tubular dysfunction by measurement of biochemical markers: A cross-sectional study
K. Aoshima *Toyama Medical and Pharmaceutical University, Japan*

P5–2 An eleven-year follow-up study of renal tubular dysfunction in male inhabitants of a cadmium-polluted area in Toyama, Japan
Y. Cai *Toyama Medical and Pharmaceutical University, Japan*

P5–3 An ecological study on environmental benzene and childhood leukaemia in south east England
S. Morioka *Wakayama Medical College, Japan*

P5–4 Mortality of non-cancers among the inhabitants in high background radiation area (HBRA), Yangjiang, China
Q. Sun *Kagoshima University, Japan*

P6 **Maternal, Child and Women's Health**

Chairperson: **J. Kagawa**
Tokyo Women's Medical College, Japan

P6–1 Use of high-dose combined pills in Japan: A community study on prevalence and health characteristics of the users
C. Nagata *Gifu University, Japan*

P6–2 Low birth weight and blood pressure, serum lipid concentrations, and body mass index at age 10 and 13 years in a Japanese rural community
K. Sakata *Wakayama Medical College, Japan*

P6–3 Perinatal mortality of twins in recent Japan
N. Kato *National Institute of Public Health, Japan*

P6–4 Mother's effective factors for 3-year-old children's tooth-brushing habit by the investigation of mutual (child and mother) questionnaire
K. Goda *Kagawa Medical University, Japan*

P6–5 Mother's effective factors for 3-year-old children's tooth-brushing habit by the investigation of mutual (child and mother) questionnaire as compared with hand-washing
N. Takeda *Kagawa Medical University, Japan*

P7 **Health for Elderly 1**

Chairperson: **H. Nakagawa**
Kanazawa Medical University, Japan

P7–1 Relationship between self-rated health and aging-related symptoms among the elderly
M. Kishimoto *Mihara Community Health Center, Japan*

P7–2 Relations between dementia and other neurological findings
T. Shiraishi *Kagoshima University, Japan*

P7–3 Prospective study of osteoporotic fractures in the community elderly in Japan
T. Suzuki *Tokyo Metropolitan Institute of Gerontology, Japan*

P7–4 Incidence of fractures and risk factors for it among the elderly living in the community
S. Yasumura *Yamagata University, Japan*

P8 **Topics 1**

Chairperson: **N. Hamajima**
Aichi Cancer Center Research Institute, Japan

P8–1 Residents' reaction and perception to request of donating additional blood for research in an epidemiological study in Japan
T. Nakayama *Tokyo Medical and Dental University, Japan*

P8–2 Nested consent design: Its application for a smoking cessation follow-up study
N. Hamajima *Aichi Cancer Center Research Institute, Japan*

P8–3 Simulation and asymptotic results of influence of Δ in a Δ test in a two by two contingency table
H. Takahashi *University of Tsukuba, Japan*

P8–4 Bias associated with use of family history as a surrogate for genotype in follow-up study
Y. Bai *Emory University, U.S.A.*

P8–5 Sampling schemes for estimating norm, growth and velocity
R. J. Yadav *Institute for Research in Medical Statistics, India*

P8 Topics 2

Chairperson: **M. Sugita**
Toho University, Japan

P8–6 Bone mineral density difference between the paraplegia and the quadriplegia
S. Tsuzuku *National Institute for Longevity Sciences, Japan*

P8–7 Association between sleeping patterns and personality dimensions in elderly persons
Y. Ito *Nagoya University, Japan*

P8–8 The relationship between superstition and a patient's decision on hospital discharge in Japan
K. Hira *Kyoto University, Japan*

P8–9 A comparative study on mortality and morbidity patterns among Koreans, Korean immigrants and Chineses in China
J. S. Kim *Seoul National University, Korea*

P8–10 Effects of ill health on income-earning capacity among urban poor in Bangladesh
I. Bashir *ICDDR, Bangladesh*

P8 Topics 3

Chairperson: **Y. Matsumura**
National Institute of Health and Nutrition, Japan

P8–11 A pilot study of sexual behavior among the general population in Japan
M. Hayashi *Juntendo University, Japan*

P8–12 Japan-China cooperative study on epidemiology of Kawasaki disease–Planning and feasibility of hospital surveys–
T. Zhang *Jichi Medical School, Japan*

P8–13 A prevalence survey on nasal allergy in the students in Jiangsu province of China
L. Cheng *Nanjing Medical University, China*

P8–14 Determinants of contraceptive use in an Indian community considering hierarchial structure of data
S. N. Dwivedi *All India Institute of Medical Sciences, India*

SYMPOSIA

Symposium I — Place: Main Hall

January 28, 1998 — **15:00 to 17:30**

SI **Country/Ethnic-Specific Strategies for Cancer Prevention in Asian-Pacific Region**
Chairpersons: **Y. Ohno**
Nagoya University, Japan
R. Saracci
International Agency for Research on Cancer, France

SI–1 Use of biomarkers in cancer risk assessment–A review of *p53* and hepatocarcinogenesis
C.N. Ong *National University of Singapore, Singapore*

SI–2 Epidemiology and prevention of cancer
I. Serra *University of Chile, Chile*

SI–3 Cultural-based cancer prevalence and its possible specific prevention program in Indonesia
J. Prihartono *University of Indonesia, Indonesia*

SI–4 Cancer epidemiology in China
S. Z. Yu *Shanghai Medical University, China*

SI–5 Issue on prevention strategy against mother-to-child transmission of HTLV-I in the world
K. Tajima *Aichi Cancer Center Research Institute, Japan*

SI–6 Are etiologic factors common between intestinal and diffuse type of gastric cancer?
T. Yoshimura *University of Occupational & Environment Health, Japan*

PROGRAM (January 29, 1998)

Plenary Session II

Special Lectures 5–8

JEA Incitement Award Winner's Lecture

Keynote Lecture

Poster Session II

Symposium II

PLENARY SESSIONS

Plenary Session II Place: Main Hall

January 29, 1998 **9:00 to 9:50**

C **Cancer**

Chairperson: **S. Watanabe**
Tokyo University of Agriculture, Japan

C–1 A long-term follow-up study on risk factors for hepatocellular carcinoma among patients with liver cirrhosis

K. Tanaka *Kyushu University, Japan*

C–2 *Helicobacter pylori* infection and atrophic gastritis: A nested case-control study in a rural town in Japan

Y. Watanabe *Kyoto Prefectural University of Medicine, Japan*

C–3 Epstein-Barr virus specific antibodies in EBV-positive and negative gastric carcinoma cases in Japan

R. Shinkura *Kagoshima University, Japan*

C–4 Ethnic differences in mammographic density patterns

G. Maskarinec *University of Hawaii, U.S.A.*

Plenary Session II Place: Main Hall

January 29, 1998 **9:50 to 10:40**

D **Cardiovascular Disease 2**

Chairperson: **T. Nose**
Tottori University, Japan

D–1 Serum fatty acids and risk of stroke among Japanese

H. Iso *University of Tsukuba, Japan*

D–2 Angiotensinogen genotype and lifestyles risk factors for pregnancy-induced hypertension

G. Kobashi *Hokkaido University, Japan*

D–3 Follow-up study on cardiac sequelae of Kawasaki desease–Baseline data and follow-up planning–

I. Oki *Jichi Medical School, Japan*

D–4 Epidemiology of rheumatic fever in Bangladesh: A review of the Nutriheart Studies

M. M. Zaman *Tokyo Medical and Dental University, Japan*

SPECIAL LECTURES

Special Lectures 5–8 **Place: Main Hall**

January 29, 1998 **10:40 to 12:00**

L–5 Dietary intake and the risk of stroke in Japan: The Shibata study

Chairperson: **S. Kono**
Kyushu University, Japan

C. Date *Osaka City University, Japan*

L–6 Epidemiology and prevention of stroke in Japanese general communities

Chairperson: **S. Kagamimori**
Toyama Medical and Pharmaceutical University, Japan

T. Shimamoto *University of Tsukuba, Japan*

L–7 Evaluation of mass screening programs for stomach and colorectal cancer in Japan

Chairperson: **M. Minowa**
National Institute of Public Health, Japan

S. Hisamichi *Tohoku University, Japan*

L–8 Epidemiology, evidence-based medicine, and evidence-based public health

Chairperson: **K. Aoki**
Nagoya University, Japan

M. Jenicek *Université de Montréal and McGill University, Canada*

JEA INCITEMENT AWARD WINNER'S LECTURE

Place: Main Hall

January 29, 1998 **13:00 to 13:20**

JEA Incitement Award Winner's Lecture

Chairperson: **H. Yanagawa**
Jichi Medical School, Japan

Y–1 Epidemiological study on new risk factors for cardiovascular disease: Serum fatty acids and plasma fibrinogen

S. Sato *Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan*

KEYNOTE LECTURE

Place: Main Hall

January 29, 1998 **13:20 to 14:00**

Keynote Lecture

Chairperson: **S. Kobayashi**
National Institute of Health and Nutrition, Japan

K–1 Diet and cancer: An update

W. C. Willett *Harvard University, U.S.A.*

POSTER SESSIONS

Poster Session II **Place: Room 106**

January 29, 1998 **14:00 to 15:00**

P3 Smoking and Alcohol 2

Chairperson: **T. Kawaguchi**
Showa University, Japan

P3–6 Validity of self-reported passive smoking evaluated by comparison with smokers in the same household

K. Ozasa *Kyoto Prefectural University of Medicine, Japan*

P3–7 Body mass decrease after the initial increase following smoking cessation

T. Mizoue *University of Occupational and Environmental Health, Japan*

P3–8 Tobacco advertising: an analysis of Cambodia

M.T.S. Smith *University of Tokyo, Japan*

P3–9 Should elderly smokers stop smoking? –Observations on the characteristics of elderly smokers and non-smokers

S. Hatano *Shukutoku University, Japan*

P3–10 Does existence of disease cause a change of drinking and smoking habits? –A study of stockbrokerage workers–

M. Masaki *Showa University, Japan*

P4 Nutrition and Diet 3

Chairperson: **I. Tsuji**
Tohoku University, Japan

P4–10 Evaluation of 24-hour dietary recall data in INTERMAP study of Shiga, Japan, using urinary electrolyte excretion

N. Okuda *Shiga University of Medical Science, Japan*

P4–11 Dietary protein intake and urinary excretion of calcium: A cross-sectional study in a Japanese population

Y. Suyama *Meiji Life Foundation of Health and Welfare, Japan*

P4–12 Health and lifestyle in practitioners of Japanese tea ceremony

A. Higashi *Kyoto Prefectural University of Medicine, Japan*

P4–13 Designing the Okinawa food frequency questionnaire

T. Todoriki *University of the Ryukyus, Japan*

P4–14 Assessments of food frequency questionnaires in middle and old people

S. Sakai *National Institute for Longevity Sciences, Japan*

P5 **Environment and Disaster 2**

Chairperson: **K. Omae**
Keio University, Japan

P5–5 Health effects of Sakurajima volcano activities on children
S. Akiba *Kagoshima University, Japan*

P5–6 An analysis of the subjective complaints in a population living in the methylmercury polluted area
Y. Fukuda *Kumamoto University, Japan*

P5–7 Epidemiological study on earthquake deaths due to Great Hanshin-Awaji earthquake
Y. Osaki *National Institute of Public Health, Japan*

P5–8 Increased risk of cerebrovascular stroke after the Great Hanshin-Awaji earthquake
S. Sokejima *Toyama Medical and Pharmaceutical University, Japan*

P7 **Health for Elderly 2**

Chairperson: **I. Kai**
University of Tokyo, Japan

P7–5 A large-scale population-based epidemiologic study on bone and bone turnover in Japanese women
M. Iki *Kinki University, Japan*

P7–6 Time dependency of the influence of having an annual checkup on mortality among elderly people in a rural community
N. Yasuda *Kochi Medical School, Japan*

P7–7 Preventive factors against being away from home living: A cohort study of surviving patients after stroke
T. Ojima *Jichi Medical School, Japan*

P7–8 A rural population based case-control study of senile cataract in India
V. Sreenivas *Indian Council of Medical Research, India*

P10 **AIDS and Tuberculosis**

Chairperson: **T. Kondo**
Keio University, Japan

P10–1 Use of risk behavior –based HIV sentinel surveillance data and modeling of the HIV epidemic to evaluate AIDS prevention strategies in Japan
T. Sankary *University of California at Los Angeles, U.S.A.*

P10–2 Population-based tuberculosis surveillance with RFLP analysis in Okinawa prefecture
A. Okado *Japan Anti-Tuberculosis Association, Japan*

P10–3 AIDS awareness among the overseas job seekers from Bangladesh

M. Rahman *Kyoto University, Japan*

P10–4 Pulmonary tuberculosis patients with diabetes mellitus registered in Nagoya city, 1989–1995

K. Yamanaka *Nagoya City Central School of Nursing, Japan*

P11 Infectious Disease 1

Chairperson: **M. Yamamoto**
Niigata University, Japan

P11–1 Prevalence of strongyloidiasis: Summary of our surveys in Thailand, Indonesia and Cambodia

K. Koga–Kita *Kagoshima University, Japan*

P11–2 An experimental study on the endurance of immune memory of intradermal micro-injection with rabies vaccine

Y. H. Yang *Shandong Provincial Sanitation and Antiepidemic Station, China*

P11–3 The study on the epidemic features of typhoid fever in rural areas of Jiangsu, China

Z. Gao *Jiangsu Provincial Public Health Center, China*

P11–4 A method to evaluate the incidences of infectious diseases by using the surveillance system in Japan

S. Tanihara *Jichi Medical School, Japan*

P11 Infectious Disease 2

Chairperson: **H. Aoyama**
Okayama University, Japan

P11–5 Methicillin-resistant *staphylococcus aureus* (MRSA) isolation from pharyngeal swab cultures on admission to a Japanese geriatric hospital

M. Washio *Kitakyushu Tsuyazaki Hospital, Japan*

P11–6 Molecular epidemiologic analysis of methicillin-resistant *staphylococcus aureus* based on diversity of coagulase gene, protein A gene, and *mec* regulator genes

N. Kobayashi *Sapporo Medical University, Japan*

P11–7 Nutritional status and prevalence of *helicobacter pylori* infection in a rural Korea

T.B. Kwon *Hallym Junior College, Korea*

P11–8 Incidence rate of Creutzfeldt-Jakob disease in Japan

Y. Nakamura *Jichi Medical School, Japan*

P11 Infectious Disease 3

Chairperson: **M. Mori**
Saga Medical School, Japan

P11–9 Long-term follow-up for interruption of mother-infant transmission of hepatitis B virus with hepatitis B vaccine and revaccination
Zhu Q-R. *Shanghai Medical University, China*

P11–10 A follow-up study of inhabitants in the high incidence area of hepatocellular carcinoma with special reference to HCV seropositivity
M. Mori *Saga Medical School, Japan*

P11–11 Change of results in liver function tests during ten years among the inhabitants infected HCV in an epidemic area
S. Ohta *Shinshu University, Japan*

P11–12 A cohort study of human T-lymphotropic virus type-I infection and cause-specific mortality among atomic-bomb survivors
K. Arisawa *Nagasaki University, Japan*

P12 Cancer 1

Chairperson: **H. Shimizu**
Gifu University, Japan

P12–1 Passive smoking exposure and cancer incident risks: A population-based cohort study
Y. Nishino *Tohoku University, Japan*

P12–2 Menstrual and reproductive factors related to the risk of colorectal cancer by subsite: A case-control analysis
K. Y. Yoo *Seoul National University, Korea*

P12–3 Physical activity and risk of breast cancer: A case-control study of Japanese women
M. Ueji *University of Tsukuba, Japan*

P12–4 Cohort study on cancer mortality and blood zinc and copper levels in the residents of Hokkaido, Japan
Y. Ito *Fujita Health University, Japan*

P12–5 Reproducibility of past history of disease and family history of cancer in questionnaire surveys
S. K. Zhu *Nagoya University, Japan*

P12 **Cancer 2**

Chairperson: **S. Tsugane**
National Cancer Center Research Institute East, Japan

P12–6 Epidemiological study on environmental risk factors for esophageal cancer in China–with reference to nutritional status–
T. Nakajima *Shinshu University, Japan*

P12–7 Relationships between infant feeding methods and risk factors for breast cancer
Y. Minami *Miyagi Cancer Center Research Institute, Japan*

P12–8 Descriptive epidemiology of pancreatic cancer in Japan
Y. S. Lin *Nagoya University, Japan*

P12–9 Relationship of serum lipids and cancer incidence of participants in health examination
A. Suyama *Tottori University, Japan*

P12 **Cancer 3**

Chairperson: **T. Yoshimura**
University of Occupational and Environmental Health, Japan

P12–10 Risk factors for gastric and lung cancers from a population-based cohort study, Japan
T. Takezaki *Aichi Cancer Center Research Institute, Japan*

P12–11 Family history and subsite of gastric cancer: Data from a case-referent study in Japan
M. Inoue *Aichi Cancer Center Research Institute, Japan*

P12–12 Relationship between CYP1A1 (AHH) activity and lung cancer in a Japanese population
C. Kiyohara *Kyushu University, Japan*

P12–13 Is the sex ratio of gastric cancer in Guatemala peculiar–2nd report
T. Yoshimura *University of Occupational and Environmental Health, Japan*

P12–14 Dose coffee consumption reduce the mortality risk of liver cancer?
N. Tokui *University of Occupational and Environmental Health, Japan*

P12 **Cancer 4**

Chairperson: **D. H. Lee**
Kosin Medical College, Korea

P12–15 Regional variations in the incidence of childhood cancer in Korea
D. H. Lee *Kosin Medical College, Korea*

P12–16 Survival of cancer patients in Osaka, 1975–1989
W. Ajiki *Osaka Medical Center for Cancer and Cardiovascular Diseases, Japan*

P12–17 Cancer incidence in Misasa, a spa area in Japan with a high radon background
W. Ye *National Cancer Center Research Institute, Japan*

P12–18 Cancer incidence rates in Japanese urban company workers
H. Sugimori *Showa University, Japan*

P13 Mental Health

Chairperson: **M. Kanamori**
Hamamatsu Medical University, Japan

P13–1 Relationship between health practice and personality dimensions in Japanese elderly
A. Tamakoshi *Nagoya University, Japan*

P13–2 Trends of dementia-free life expectancy among elderly in the United States
C. Sauvaget *Tohoku University, Japan*

P13–3 Prevalence of depressive symptoms among the elderly living in Okinawa
N. Niino *National Institute for Longevity Sciences, Japan*

P13–4 Lifetime prevalence and risk factors of major depression in middle-aged and elderly populations in Japan
N. Kawakami *Gifu University, Japan*

P13–5 The association between low fat intake and depression in Japanese
S. Tsuboi *National Institute for Longevity Sciences, Japan*

P14 Screening and Health Promotion

Chairperson: **H. Ozawa**
Oita Medical University, Japan

P14–1 Effects of the mass screening for neuroblastoma using HPLC in Hokkaido, Japan
M. Nishi *Sapporo Medical University, Japan*

P14–2 Effect of screening program on decreasing mortality from lung cancer in Japan: A prospective cohort study
S. Inaba *Gifu University, Japan*

P14–3 Analysis of effect of cancer screening to prevent premature death in Japan
C. Hamashima *St.Marianna University, Japan*

P14–4 Relationship between the number of teeth and lifestyle
N. Fujiwara *Nagoya City University, Japan*

P14–5 Leisure time physical activity in the Japan lifestyle monitoring study I
N. Iwai *Tottori University, Japan*

P14–6 Life style and laboratory test results from a mass health screening on the middle-aged in an urban community
S. Mizuno *Tokyo Metropolitan Institute of Gerontology, Japan*

SYMPOSIA

Symposium II Place: Mail Hall

January 29, 1998 **15:00 to 17:30**

SII Can We Overcome Limits in Epidemiology?
Chairpersons: **S. Tominaga**
Aichi Cancer Center Research Institute, Japan
P. Pharoah
University of Liverpool, U.K.

SII–1 An overview of limits in epidemiology
S. Tominaga *Aichi Cancer Center Research Institute, Japan*

SII–2 The limits of epidemiology are delineated by the challenges in which we get involved
H. K. Armenian *Johns Hopkins University, U.S.A.*

SII–3 Molecular epidemiology–dreams of a molecular biologist
Y. Yuasa *Tokyo Medical and Dental University, Japan*

SII–4 Does the indoor environment affect the risk for lung cancer in nonsmokers? Issues of measurement of exposure and biological plausibility
J. M. Wu *New York Medical College, U.S.A.*

SII–5 Ethical issues in epidemiologic studies
L. N. Kolonel *University of Hawaii, U.S.A.*

SII–6 From the experience of a cooperative large scale intervention trial on lifestyle modification
H. Ueshima *Shiga University of Medical Science, Japan*

PROGRAM (January 30, 1998)

Special Lectures 9–11

Symposium III

SPECIAL LECTURES

Special Lectures 9–11 **Place: Main Hall**

January 30, 1998 **9:00 to 10:00**

L–9 Situation and control of micronutrient deficiencies in Vietnam

Chairperson: **H. Miyake**
Sapporo Medical University, Japan

H. H. Khoi *National Institute of Nutrition, Vietnam*

L–10 Resistance to HIV infection

Chairperson: **K. Soda**
Yokohama City University, Japan

R. Detels *University of California, at Los Angeles, U.S.A.*

L–11 An observation of the effects of physical fitness on health level in a Japanese population

Chairperson: **A. Fukao**
Yamagata University, Japan

H. Yanagawa *Jichi Medical School, Japan*

SYMPOSIA

Symposium III **Place: Main Hall**

January 30, 1998 **10:00 to 12:30**

SIII **Acceptable and Effective Cardiovascular Prevention Programs in Asia**

Chairpersons: **T. Uehata**
National Institute of Public Health, Japan

R. Beaglehole
University of Auckland, New Zealand

SIII–1 Acceptable and effective prevention programs against CVD in Asia: The challenge

R. Beaglehole *University of Auckland, New Zealand*

SIII–2 Acceptable and effective cardiovascular prevention programs in Bangladesh

M. Rahman *National Institute of Preventive and Social Medicine, Bangladesh*

SIII–3 Acceptable and effective cardiovascular prevention programs in Asia: Thai perspective

C. Supornsilaphachai *Ministry of Public Health, Thailand*

SIII–4 Acceptable and effective prevention programs against cardiovascular disease in Asia

C. Sitthi-Amorn *Chulalongkorn University, Thailand*

SIII–5 Cardiovascular risk factors in Japanese children may be different from those in western countries –What is an acceptable primordial prevention program in childhood?

N. Yoshiike *National Institute of Health and Nutrition, Japan*

SIII–6 Effects of population strategy and high risk strategy in the reduction of blood pressure level in Japan

K. Kodama *Radiation Effects Research Foundation, Japan*

ABSTRACTS

28AM A–1 AN EPIDEMIOLOGICAL STUDY OF CARDIO-VASCULAR DISEASE AMONG JAPANESE AMERICANS IN SEATTLE, U.S.A.:THE 3RD REPORT

T. Namekata[1,3], D. Moore[2], D. Hughes[1], R. Knopp[3], E. Perrin[3], S. Marcovina[3], K. Suzuki[4], C. Hayashi[5], S. Hatano[6]
[1]Nikkei Disease Prevention Center, Seattle, U.S.A.; [2]Univ. of Cincinnati, U.S.A.; [3]Univ. of Washington, Seattle, U.S.A.; [4]Epid. Arteriosclerosis Research Inst., Tokyo, Japan; [5]Shukutoku Univ., Chiba, Japan; [6]National Inst. of Math. Statistics, Tokyo, Japan

Purpose: In the 1st and 2nd reports the authors reported that Japanese Americans in Seattle have higher average levels of total cholesterol (TC) and low density lipoprotein (LDL) cholesterol, lower average levels of high density lipoprotein (HDL) cholesterol and a higher prevalence of coronary heart disease (CHD) than native Japanese in Japan. The purpose of this study is to examine the association between CHD and levels of lipids and lipoproteins including TC, LDL-C, HDL-C and triglycerides (TG) among Japanese Americans in Seattle.
Methods: Study subjects were 697 men and 713 women of Japanese Americans 30-79 years old in the Seattle area who participated in the cardiovascular disease prevention screening for 1989-94. Multiple logistic regression analysis was conducted to estimate risk of CHD according to levels of lipids and lipoproteins adjusting for other risk factors.
Results: Significant odds ratios for CHD were 3.14 ($p<.05$) at TC/HDL-C ratio 5.0-5.4 and 2.49 ($p<.05$) at TC/HDL-C ratio ≥ 5.5 among men and 3.00 ($p<.05$) at TC/HDL-C ratio 5.0-5.4 among women, in comparison with TC/HDL ratio <3.5 as a reference category. None of the other lipids and lipoproteins was found to be significant at any levels.
Conclusion: Although both Seattle Japanese American men and women had higher average cholesterol levels than native Japanese in Japan, various levels of TC, LDL-C and TG were not associated with CHD. Further research is needed to delineate the role of lipids and lipoproteins in cardiovascular disease in this population.

28AM A–2 THE ANNUAL HEALTH CHECKUP DATA AND MORTALITY AMONG JAPANESE MALES IN A PROSPECTIVE COHORT STUDY

M. Tomita*, S. Mizuno**, Y. Hosoda*,H. Yosida**, M. Yamaguchi***
* Central Health Institute of East Japan Railway Company
** Tokyo Metropolitan Institute of Gerontology
*** National Institute of Health and Nutrition

Purpose: We conducted a prospective cohort study to clarify the relationship between the annual health checkup data and mortality.
Subjects and methods: We examined and collected baseline data of 49,410 Japanese male workers with 25 to 60 years old at the time of health examination in years from 1975 to 1982. Vital status was followed-up until 1985.
Results and conclusion: Elevated systolic blood pressure, diastolic blood pressure, serum uric acid, blood glucose, GOT, history of the treatment of cardiovascular disease, and smoking have a positive relation to the mortality. Descended body mass index, serum total cholesterol were suspected to have a positive relation to the mortality in this working population.

28AM A–3 BODY WEIGHT GAIN AND SUBARACHNOIDAL HEMORRHAGE IN JAPAN

S. Kikuchi [1], T. Ishibashi [2], M. Kurosawa [1], Y. Inaba [1]
[1] Dept. Epidemiol. Juntendo Univ. Scho. of Med., Tokyo,
[2] Section of Health Administ, Asama General Hosp, Nagano, Japan.

Purpose: To investigate risk factors for incidence and death of subarachnoidal hemorrhage.
Subjects and methods: Subjects were from 28,000 residents over 35 years of age, living in Saku-city, Nagano, who responded to the questionnaire on habits, food and past history in January, 1989. Cases were those who newly acquired the disease between January, 1989 and March, 1997. The information on the incidence and death was obtained from circulatory disease registry in this area and death certificates. Each case was matched with 1-6 controls by sex and age (within 3 years), who were without past history of the disease and alive when the case acquired the disease. Odds ratios (OR) and its 95% confidence intervals were calculated using the data sets.
Results: Number of the data sets were 79 for incidence and 37 for death. Gain of body weight over 10 kg compared with that when 20 years old elevated the risk {ORs(95% confidence intervals) were 1.9(1.0-3.6) for incidence and 3.2(1.1-10.0) for death}. But body mass index gave no significant results.
Conclusion: Gain of body weight in adulthood may be a risk factor for subarachnoidal hemorrhage.

28AM A–4 RELATION BETWEEN NOCTURNAL DECLINE IN BLOOD PRESSURE AND MORTALITY: A POPULATION-BASED OBSERVATION IN OHASAMA, JAPAN

T. Ohkubo [1], I. Tsuji [1], Y. Imai [1], K. Nagai [2], S. Hisamichi [1]
[1] Tohoku University School of Medicine, Sendai, Japan
[2] Ohasama Hospital, Iwate, Japan

Purpose: To investigate the relation between nocturnal decline in blood pressure and mortality in a general population.
Methods: We obtained ambulatory blood pressures in 1542 residents aged 40 years or over of a rural Japanese community. Subjects were followed-up for a mean of 6 years and were then subdivided into 4 groups according to the percent decline in nocturnal blood pressure: 1. extreme dippers: percent decline in nocturnal blood pressure ≥ 20 % of the daytime blood pressure, 2. dippers: decline of ≥ 10 % but < 20 %, 3. nondippers: decline of ≥ 0 % but < 10 %, 4. inverted dippers: no decline. The relationship between the decline in nocturnal blood pressure and mortality was examined by the Cox proportional hazards regression model adjusted for age, sex, smoking status, the use of antihypertensive medication, history of cardiovascular disease, diabetes and hypercholesterolemia.
Results: The mortality risk was the highest in inverted dippers, followed by nondippers. There was no difference in mortality risk between extreme dippers and dippers. This relationship was observed for both treated and untreated subjects, was more pronounced for cardiovascular than for noncardiovascular mortality, and did not change after the data were adjusted for 24-hour, daytime, and nighttime blood pressure levels.
Conclusion: Nocturnal decline in blood pressure was an independent predictor for mortality. This appears to be the first study which investigated the relation between nocturnal decline in blood pressure and mortality in a general population.

28AM B-1 POPULATION-BASED CASE-CONTROL STUDY OF CORTICAL CATARACT IN ICELAND

N.Katoh[1], H.Sasaki[2], M.Kojima[2], M.Ono[3], K.Sasaki[2]
[1]Tokyo Women's Medical College, Tokyo, Japan
[2]Kanazawa Medical University, Uchinada, Japan
[3]National Institute for Environmental Studies, Tsukuba, Japan

Purpose: A population based cataract survey was done in Iceland to investigate the risk factor for pure cortical cataract.
Methods: 1,045 participants over 50 years of age were randomly called from a limited area of the city of Reykjavik in Iceland and received ophthalmological examinations. Among them, the potential cases were defined as only those with pure cortical cataract of grades II-III in one or both eyes and a fellow eye with or without a transparent lens according to the criteria of the Japanese Cooperative Cataract Epidemiology Study Group. The controls were those without lens opacification or with very early senile lens changes in both eyes. 39 cases and 175 controls of 214 males, and 43 cases and 203 controls of 246 females were selected for the case-control study. The data on foods, smoking and alcohol habits, past history of illness, drug use, UV-light exposure,etc. were obtained through a questionnaire or ophthalmological examination. An unconditional logistic regression analysis was applied to calculate the relative risk and 95% CI.
Results: Significantly elevated relative risks of 2.80(95% CI 1.01-7.80) and 2.91(95% CI 1.13-9.62) were observed in the groups that spent more than 4 hours/day outside in their 20s-30s and 40s-50s, respectively, with a reference level of the group that spent 0 hour/day outside. Other variables such as the use of steroid tablets and mixed pupil color were also found as risks for pure cortical cataract.
Conclusion: A significant relationship between daytime hours spent outside on weekdays and pure cortical cataract of grades II-III was shown in this study in Iceland which was also previously reported in the epidemiological study in the town Monzen in Japan.

28AM B-2 HEARING LOSS ON AGING;THE CROSS-SECTIONAL AND SEMI-LONGITUDINAL STUDY OF 66,000 HEALTHY POPULATION

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[2]Oriental Industrial Health Association

Purpose: We investigated (1) the relationship of hearing loss and aging in semi-longitudinal study and (2) the risk factors of hearing loss.
Methods: The subjects were 65,995 men and women aged14 to 95, who visited a health examination center from 1989 to 1996. The mean number of visiting was 3.8 per person and total visiting number was 162,378 for 8 years. Hearing loss was measured in 1,000, 2,000, 4,000 and 8,000 Hz. The relationship between hearing loss and aging was evaluated semi-longitudinally and the risk factors of hearing loss was examined by multiple regression analysis.
Results: (1)Hearing loss was apparent from the fourth decade of life in men and women. Severer hearing loss was observed in higher frequency, as previously reported. And hearing loss was severer in men than in women especially in high frequency. Cohort effects on hearing loss with aging were little, but there was some period effects between cohorts. (2) The significant risk factors of hearing loss were smoking, obesity, glucose intolerance, low plasma HDL concentration and polycythemia.
Conclusion: Hearing loss was dominant in high frequency especially in men. The cohort effects on hearing loss seemed to be little but a further investigation was needed. Although a series of risk factors was found, these should be evaluated in longitudinal study.

28AM B-3 RATES OF CHANGE IN SPINAL BONE DENSITY AMONG JAPANESE WOMEN - A MULTICENTER TRIAL -

S. Fujiwara[1] M, Fukunaga[2], T. Nakamura[3], T. Hashimoto[4], M. Shiraki[5], JT. Chen[6], K. Yoh[7], T. Nakamura[8], H. Mizunuma[9], T. Tomomitsu[2], N.Masunari[1], F.Kasagi[1], K.Kodama[1], H. Orimo[8]
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Purpose: A few reports have been published on changes in spinal bone density for a large number of Japanese. We determine the rates of change in bone mineral density (BMD) at the spine in healthy Japanese women in a multicenter trial.
Methods: Longitudinal measurements of spinal BMD using dual X-ray absorptiometry were collected from 984 women aged over 17 years (mean age 51.6) at eight medical research centers. They were followed up for 20.9 months on average without any treatment influencing bone and calcium metabolism. There was no evidence of drift in machine performance for any of the machines during the study period. Measurements of BMD obtained by two different scanners were converted into standardized BMD (sBMD) values using conversion formulas advocated by the International Committee on Bone Densitometry.
Results: Multiple linear regression model predicts that spinal sBMD increases up to about 23 years of age: the estimated average rates of increases were 0.13%/year for women aged 20 years. After the age of 23, the sBMD began decreasing: the rates of loss increased by 0.045%/year for each one year increase in age among premenopausal women. In perimenopausal women, the rate of loss was 2.1%/year. In post-natural-menopausal women, the rates of loss decreased exponentially with increasing years since menopause. The rates of loss increased by 0.04%/year for 1kg decrease in body weight or by 0.1%/year for 1 kg/m^2 decrease in body mass index. No significant differences in changes in sBMD were found between scanners and between centers, after multiple adjustment.
Conclusion: The rates of change in spinal sBMD are associated with age in premenopausal women, and with years since menopause and weight or BMI in postmenopusal women. Caution is needed, however, when using data from different densitometers to evaluate rates in bone loss in multicenter trials.

28AM B-4 THE AETIOLOGY OF SPASTIC CEREBRAL PALSY - THE VANISHING TWIN?

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Background. Late fetal death of a twin has a deleterious effect on the surviving co-twin. In particular, the surviving co-twin is at an increased risk of death in the neonatal period and, among those that survive, there is a greatly increased risk of neurological impairment, in particular, spastic cerebral palsy. This increased risk appears to be confined to monochorionic twins.
Aims. To investigate the hypothesis that the majority of cases of spastic cerebral palsy are due to unrecognised early fetal death of one of monochorionic twins.
Methods. A register of children with cerebral palsy born to mothers resident in two English counties in the years 1966-96 has been compiled. The obstetric records of all cases were abstracted, in particular, any record of twinning was noted. All twin pregnancies in which one twin was a late fetal death and the surviving twin has cerebral palsy were selected and a request made to the Office of National Statistics to trace the registrations in order to determine if both, the fetal death and the livebirth with cerebral palsy were registered. Early obstetric ultrasound records, where available, were also examined.
Results. There were 19 twin pregnancies recognised from the obstetric notes in which one twin was a late fetal death and the co-twin survivor had cerebral palsy. Seven of the 19 fetal deaths were not registered so that the surviving co-twin with cerebral palsy was recorded as a singleton. In addition, 4 case records are presented in which early ultrasound evidence of twins was followed by the disappearance of one twin early in gestation (the vanishing twin phenomenon) and the surviving co-twin has spastic cerebral palsy. Studies of the frequency of the vanishing twin phenomenon show that it can easily account for the known prevalence at birth of spastic cerebral palsy.
Conclusion. What is apparently cerebral palsy in a singleton infant has been caused by early gestational death of a co-twin.

28AM L–1

GLOBAL WARMING AND HEALTH

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The intergovernmental Panel on Climate Change - a UN body established in 1988 - concluded in its 1997 assessment report that an anthropogenic influence upon the global climate - global warming due to an increase in green-house gases - was now "discernible". Although there remain uncertainties regarding its extent and scope, several features of the influence appear to be clear. First, regions already characterized by little precipitation will have less of it further aggravating ongoing desertification, while the opposite will take place in regions with heavy precipitation. Second, the melting of great ice caps will slow down the hydraulic circulation of the ocean and cause the elevation of the sea level and the salinity change of the sea water . Third, the changes will last quite long relevant to human sense, hundreds to thousands of years.

A variety of effects, many adverse, are foreseeable in relation to infectious diseases, food production and areas of habitation. It appears that countries which are least able to deal with ecological and social disruption will be the hardest hit.

28AM L–2

HEALTHY CITIES AND URBAN POLICY RESEARCH: BUILDING A BRIDGE TO THE SOCIETY

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Policy formulation is now becoming more rational, with evidence-based decision making replacing older models; there is a greater emphasis on setting and achieving measurable goals. Resources need to be allocated more efficiently. In searching for solutions to the current problems society is facing, there has to be a stronger scientific basis for decisions and planning. However, in responding to the needs of society, it takes a long time to obtain results that can be completely proven. It is important to translate research results and compiled data into terms readably understandable by society and to visualize them to people. The challenge that faces us is how best to reach out to society. Some attempts to do this can be seen in the trials of the Healthy Cities projects. Those include the use of process indicators for community involvement, supportive environment, networking functions, and other social activities and the use of visualization methods — i.e. a geographical information system and graphical instruments offering possible scenarios.

28AM L–3

Today's Occupational Health in Korea

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During the past 35 years, the Republic of Korea has undergone rapid industrialization. Numerous industiral complexes have emerged and many workers have come to be employed by the industrial undertakings. As a result, the number of cases of industrial accidents and occupational diseases have been increasing. Due to industrialization there are many occupational health problems newly arising. Here, I will present health the numerous problems facing our industries and give a brief description of our efforts to solve these problems.

In 1981 the Incustrial Health and Safety Law was enacted. The new law has strengthened the system for occupational health service in plants. In 1987, the Korean Industrial Safety Cooperation was established for the prevention of industrial accidents and the development of safety services in industries.

It is hoped that we succeed in building an effective occupational health serveice network by the motivation of entrepreneurs of smaller industries, in addition through our own efforts, we will encourage upstream larger industries to show interest in the better work environment of their supplier small factories from the view point of quality assurance/standardization programs. We have already experienced a few favorable occasions in this regard.

28AM L–4

EPIDEMIOLOGY OF SUDDEN UNEXPLAINED DEATH SYNDROME (SUDS) IN NORTHEAST THAILAND

Y. Inaba, Juntendo University School of Medicine, Tokyo, Japan

Sudden unexplained death syndrome (SUDS) , locally known as Lai Tai, is a term used to describe death during sleep which occurs mainly among young males between 20-59 years of age. This syndrome has been previously reported among various Asian population. Since 1991 I have studied it as one of the staff members of The Japanese and Thai Collaborative Study Group (the Chief is Prof. Hitoshi Endou). Although the etiology of this syndrome is still unclear, the following results have been obtained.

1. Nationwide survey revealed the highest occurrence of SUDS (20.8/100,000) in the northeast area, followed by north, central, and south.
2. Thai workers in Singapore showed much higher occurrence of SUDS (estimated 97.0/100,000). Most of them were from northeast Thailand.
3. Many studies indicated familial aggregation of SUDS.
4. Most people in that area are poorly nourished and of low socioeconomic status.
5. In this area there are some endemic diseases, such as hypokalemic periodic palalysis, distal renal tubular acidosis (EdRTA) and renal stone.
6. Our results of the case control study of EdRTA suggested high plasma Mg, low plasma K, high urine β -2-microglobulin and high urine pH as related factors.
7. Our results of the case control study of SUDS family revealed that SUDS families had high serum HCO_3, serum Mg, low serum Mo, Ca, albumine, and low systolic blood pressure.
8. We found that salt and rice in the area have very low Mg and K.

SUDS has many difficult traits for epidemiological study, i.e. definition, diagnosis, taking history and examination, but it is one of the important health affairs that we should try to elucidate its etiology and preventive methods in the coming century.

28PM P1-1 CLUSTERING OF CARDIOVASCULAR RISK FACTORS IN A KOREAN URBAN POPULATION: ASSOCIATION OF HYPERTENSION WITH OBESITY, ABNORMAL GLUCOSE, AND DYSLIPIDEMIA

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Purpose: To examine the association of hypertension with obesity, abnormal glucose and dyslipidemia in Korean men and women.

Methods: This cross-sectional study was conducted among 3027 men and 2127 women age 20-85 years who visited a prevention center between June 1991 and July 1995 for a multiphasic health check at St. Mary's Hospital, Seoul.

Results: The age adjusted odds ratios of hypertension (≥160/95 mm Hg) were as follows in men and women: among persons who were obese (BMI ≥25 kg/m^2) compared with those nonobese, 2.53 (95% CI 2.08-2.20) and 2.22 (95% CI 1.71-2.87); among persons who were abnormal glucose (≥120 mg/dl) compared with those normoglycemic, 1.43 (95% CI 1.13-1.82) and 2.01 (95% CI 1.36-2.94); and among persons who were dyslipidemic (cholesterol≥240 mg/dl or HDL cholesterol<35 mg/dl in men, 45 mg/dl in women or LDL cholesterol≥160mg/dl or triglyceride≥ 250 mg/dl) compared with those normal, 1.59 (95% CI 1.30-1.95) and 1.51 (95% CI 1.16-1.96). After clustering more than one risk factor, the odds ratios increased. Among persons with obesity, abnormal glucose, and dyslipidemia, the odds ratio of hypertension was 2.25 (95% CI 1.47-3.37) in men and 3.02 (95% CI 1.71-5.30) in women.

Conclusion: In this Korean study population, obesity, abnormal glucose, dyslipidemia, and hypertension were confirmed with clustering of factors such as Syndrome X.

28PM P1-2 IMPORTANCE OF THE CONTROL FOR SEX AND AGE IN ASSESSING FAMILY HISTORY OF CHRONIC VASCULAR DISEASES

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Purpose: Prevalence of chronic vascular diseases such as hypertension, coronary heart disease, stroke and diabetes differs between sex and increases nearly exponentially with age. Therefore, a lack of control for sex and age of family members in assessing their family history as a risk factor results in misclassification. The degree of such misclassification was estimated.

Methods: Through questionnaires filled in by parents of 2316 high school students, information was obtained on the past history of chronic vascular diseases among students' parents, grandparents, uncles and aunts. The effects of sex and age on a positive history in each disease were estimated as odds ratios by the logistic regression analysis of the past history by sex and age.

Results: The odds ratios for age difference ranged from 1.05 in diabetes mellitus to 1.06 in hypertension, coronary heart disease and stroke ($p<0.05$). This indicated that a positive history increased by $(1.05\sim1.06)^y$ in such diseases, where y was age difference by year. The odds ratios for sex difference were above 2.0 ($p<0.05$) in all the diseases below age 70. This indicated that below age 70 male members had a positive history more than 2.0 times as compared with female members of the same age.

Conclusion: Potential misclassification or bias resulting from disregarding sex and age of family members can be substantial. Some measures to control for sex and age of family members are required in assessing the family history.

28PM P1-3 CHANGES IN SERUM CHOLESTEROL LEVEL AND MYOCARDIAL INFARCTION INCIDENCE

S. Shimizu[1], K. Kodama[1], M. Yamada[1], F. Kasagi[1], N. Masunari[1], S .Nagataki[1], [1]Radiation Effects Research Foundation, Hiroshima, Japan

Purpose: Because the association between cholesterol change and coronary heart disease is still controversial, we evaluated this association in a Japanese cohort.

Method: Since 1958, the Radiation Effects Research Foundation (RERF) has conducted a long-term clinical follow-up of atomic-bomb survivors and controls of approximately, 20,000 person through biennial health examinations. This follow-up is known as the Adult Health Study (AHS). Our study population for this analysis comprised AHS participants in Hiroshima and Nagasaki whose total cholesterol measurements had been taken since 1958. Change in total cholesterol between 1956-66 and 1969-70 was calculated, and age, baseline cholesterol, and total cholesterol change were stratified. Myocardial infarction was assessed at biennial examination, and incidence was determined by a person-year method. Follow-up was carried out after 1967-70 examinations until 1990.

Results: On the whole, in those under age 65 of both sexes, increase in serum cholesterol was associated with increased occurrence of myocardial infarction, and decline in serum cholesterol was associated with lower occurrence of myocardial infarction. In addition, a higher baseline cholesterol level was associated with higher subsequent myocardial infarction incidence in each cholesterol change stratum. We could not evaluate the association between total cholesterol change and baseline cholesterol with subsequent myocardial infarction incidence due to an insufficient number of subjects in those above age 65.

Conclusion: In those under age 65, a higher baseline cholesterol level and increase in cholesterol are associated with increased myocardial infarction incidence, while a lower baseline cholesterol level and decline in cholesterol are associated with decreased myocardial infarction incidence.

28PM P1-4 Significance of an accumulation of arteriosclerotic risk factors in elderly people

—A prospective eighteen-year follow-up study—

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Purpose: Data from an 18-year prospective study were used to investigate the effect of an accumulation of arteriosclerotic risk factors in elderly people on the rates of mortality due to cerebrovascular and cardiovascular disease.

Method: The risk factors are smoking,hypertension,diabetes mellitus,hyperlipidemia,and obesity. We compared the survival rates of a small number of risk factors (<two risk factors) group and a large number of risk factors (≧two risk factors) group in four groups of subjects: men and women in middle-aged (<61-years-old) groups and men and women in elderly (≧61-years-old) groups.

Result: In the elderly male group,the survival rate was lower in subjects with many risk factors than in those with few risk factors.In the middle-aged male group,however,there was no difference between the two risk groups. On the other hand,in the middle-aged female group,the survival rate was lower in subjects with many risk factors than in those with few risk factors,while no difference was found between the two risk groups in the elderly female group.

Conclusion: The results indicated that the effects of an accumulation of risk factors on life prognosis are different in men and women and greater in elderly men than in elderly women.

28PM P1-5 RELATIONSHIPS BETWEEN THE BLOOD COAGULATION-FIBRINOLYSIS SYSTEM AND THE INDICATORS OF ATHEROSCLEROSIS

Y.Nishiwaki,T.Takebayashi,K.Omae,H.Sakurai
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Purpose: Relationships between the coagulation-fibrinolysis system and the indicators of atherosclerosis were assessed using healthy workers' data.
Methods: A cross-sectional observation was performed on 444 healthy male workers(18.9~49.4, Av.36.2yrs) from 7 factories. As coagulation-fibrinolysis parameters, D-dimer, thrombin antithrombin III complex (TAT), tissue plasminogen activator (TPA),and plasminogen activator inhibitor 1 (PAI1) were determined in the plasma. As indicators of atherosclerosis, systolic and diastolic blood pressure (SBP,DBP), stiffness parameter of the carotid artery using ultrasound (β), pulse wave velocity of the aorta (PWV), and a number of lacunar infarctions from MRI of the brain were measured. After age-stratification(-29,30-39,40+yrs),the workers were classified into 4 groups by coagulation-fibrinolysis parameters (quartiles).The mean values of the indicators of atherosclerosis and the prevalence of brain infarctions were compared across these quartiles. Analysis of variance followed by Tukey's method and chi-square test was employed. Multivariate analysis was also employed to adjust other risk factors.
Results: In the 40+yrs group, SBP,DBP,β,PWV were significantly elevated by increase of PAI1(p=0.0001), TPA(p=0.0116) and PAI1(p=0.0133), PAI1 (p=0.0108),TAT(p=0.0375) respectively. In the -29 and 30-39yrs groups, such relationships were not observed. D-dimer had no relation to any of the indicators of atherosclerosis. None of the coagulation-fibrinolysis parameters had any relation to brain infarctions.
Conclusion: TAT,TPA,PAI1 had significant relationships with the indicators of atherosclerosis only in the 40+yrs group of healthy male subjects.

28PM P1-6 ASSOCIATION OF RISK FACTORS FOR ATHEROSCLEROSIS AND IMMUNE SYSTEM

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Background: Recently, acceralated immunologic process has been found in the atherosclerotic lesions in pathological and experimental animal studies. However, few epidemiologic studies have been reported whether conventional risk factors for atherosclerosis are associated with immune system in human.
Methods: We assessed cardiovascular risk factors (blood pressure, body mass index, smoking, alcohol intake, serum total cholesterol and triglycerides) and immune parameters (subpopulations of white blood cells and lymphocytes) in 387 male company employees aged 22 to 61 years (mean age: 42 years) in 1996. The relation between risk factors and immune parameters were examined by multiple regression analyses.
Results: The number of cigarettes smoked daily and serum triglyceride concentrations were positively associated with counts of white blood cells, total lymphocytes, naïve T and memory T cells after adjusting for age, blood pressure, body mass index and alcohol intake.
Conclusion: Significant associations of smoking and serum triglycerides with immune parameters suggest the involvement of immune system in the development of atherosclerosis.

28PM P1-7 AN ASSOCIATION BETWEEN THE HYPERTENSION RELATED GENE POLYMORPHISMS AND PARAMETERS OF CIRCULATION SYSTEM

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Purpose: We evaluate genetic factors on blood pressure and other parameters of circulation system using the hypertension related gene polymorphisms.
Methods: The subjects consisted of three hundreds and eighty four healthy unrelated Japanese aged from 21 to 89 years in the general population and three hundreds and eighty healthy workers (30-59 y/o). Angiotensinogen (AGT), angiotensin converting enzyme (ACE) and α adducin gene polymorphisms were used as genetic markers. The genotypes of AGT and ACE were determined by means of PCR method as described previously. The genotyping of α adducin gene was performed by means of our original mismatching PCR method.
Results: This population was in Hardy-Weinberg equilibrium. Diastolic blood pressure was associated with AGT gene polymorphism. Systolic blood pressure increased in subjects have the mutant allele. Values of total cholesterol, HDL cholesterol and platelet numbers were not associated with hypertension related genes. Though both of systolic and diastolic blood pressure were related with age, alcohol drinking and BMI significantly, gene polymorphisms were not significant.
Conclusion: Although blood pressure was sassociated with age, alcohol drinking, BMI and gene polymorphisms, there was no association between other parameters of circulation system and genotypes.

28PM P1-8 RELATIONSHIP BETWEEN ELECTROCARDIOGRAPHIC (ECG) ISCHEMIC CHANGES AND CORONARY HEART DISEASE RISK FACTORS IN A MIDDLE AGED JAPANESE POPULATION

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Purpose: In the last two decades declining blood pressure (BP) level, increasing serum total cholesterol (TC) and increase in the prevalence of diabetes in the Japanese middle-aged were observed. In this study the association of ECG ischemic abnormalities with these coronary heart disease risk factors was investigated.
Method: Data of 2164 men and 3111 women aged 30-59 years was analyzed from the dataset of National Survey of Circulatory Disorders of 1990. BP was recorded and non-fasting TC and blood sugar (BS) were measured in standardized method. Resting ECGs were coded by Minnesota code based upon two independent reading by trained staff. Codes 1.3, 4.1-4.4, 5.1-5.3 and 7.1 were classified as ischemic changes. Levels of risk factors were compared between subjects with ischemic changes and those without it. Logistic regressing analysis was used to clarify the associations between ischemic changes and risk factors. Age, SBP, BS, TC, smoking and drinking habit were entered in the model as independent variables.
Result: The levels of SBP, BS and TC in two groups are shown in Table 1.

Table 1. Age adjusted SBP, BS, TC in subjects with and without ischemic changes

	Ischemia (Men)			Ischemia (Women)		
	Yes	No		Yes	No	
No.	66	2093	p	132	2976	p
SBP (mmHg)	142.0	132.9	<0.001	133.6	127.4	<0.001
BS (mg/dl)	113.8	100.0	<0.001	103.7	97.9	<0.01
TC (mg/dl)	201.3	200.5	NS	201.6	201.2	NS

In the regression analysis, ischemic changes were significantly related with SBP in both sexes and with BS in men. After exclusion of subjects with signs of LVH relationship with SBP became weak while the significant association with BS persisted in men.
Conclusion: Electrocardiographic ischemic changes are predominantly associated with blood pressure level in Japanese middle-aged of both sexes while blood sugar level has strong positive association in men .

28PM P1–9 THE EFFECTS OF REGULAR EXERCISES ON SERUM INSULIN LEVELS IN PATIENTS WITH MILD ESSENTIAL HYPERTENSION

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Purpose: Investigating the effect of regularaerobic exercises on the insulin level in hypertensives it has not been reported in China.
Methods: In this study included one hundred and nine mild essential hypertensives aged from 43 to 69 years. They were randomized assigned to exercise group(53) or control group(56) and stratified by age and body mass index. Both groups were under the nirendipine regimen. The intervention group were undergoing extra exercises of moderate intensity (approximate to 50-60% VO_2 max.)per day for these months.
Results: In exercise group, the insulin concentration of fasting, 1 hour and 2 hour after glucose loading were decreased significantly($p<0.05$) following 3 months exercises,whereas no significant changes in control group. Decreasing of the magnitudes of insulin levels were positive related with the amount of exercise intensity($r=0.61, p<0.01$). The serum TC,LDL-C and TG were decreased significantly in exercises group($p<0.05$,0.01 and 0.01).after 3 months blood pressure were lower in both groups ,as well as the doses of nitrendipine were reduced in exercises group.
Conclusion: Regular exercises of moderate degree may decrease the insulin level in patients with essential hypertension ,improve sensitivity of peripheral tissue to insulin and decreasing both dystipidemia and blood pressure.

28PM P1–10 LIPOPROTEIN(A) LEVELS AND APOLIPOPROTEIN(A) ISOFORMS IN JAPANESE

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Purpose: Lipoprotein(a) [Lp(a)] has been reported to be a cardiovascular risk factor, and both genetic and environmental factors are considered as a determinant of Lp(a) levels. However, the association between apolipoprtein(a) [apo(a)] polymorphism and Lp(a) levels was investigated in only a few stusies in Japan. We studied the association in the present study.
Method: We measured the plasma levels of Lp(a) and apo(a) isoforms in 280 Japanese residents aged 39-70 in a rural community. The Lp(a) levels and apo(a) isoforms were determined in Gifu university (Prof. Akio Noma). We graded Lp(a) into four phenotype-groups using apo(a) isoform, and investigated the levels of Lp(a) and other cardiovascular risk factors using apo(a) phenotype.
Result: Numbers of Lp(a) phenotype-groups were 34(I), 36(II), 12(III), 15(IV) in men, and 68(I), 68(II), 25(III), 22(IV) in women. Lp(a) median levels were 9.6(all), 3.4(I), 9.3(II), 29.2(III), 38.9(IV) in men, 9.5(all), 4.1(I), 10.6(II), 18.4(III), 48.0(IV) in women.
Conclusion: Lp(a) concentrations were concerned with apo(a) phenotype.

28PM P1–11 ASSOCIATION OF FISH INTAKE WITH FACTOR VII AND OTHER CARDIOVASCULAR RISK FACTORS IN A JAPANESE POPULATION, THE JMS COHORT STUDY

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Purpose: It has been suggested that fish intake reduces risk of cardiovascular diseases. However, in Japan , few studies were carried out to clarify the association between fish intake and cardiovascular risk factors. In the present study, it was aimed to see the association, using cross-sectional data.
Method: The subjects were 5,670 residents aged 30-79 years in seven communities in Japan. We investigated relationship between fish intake freqency, using questionnaire, and cardiovascular risk factors from serum samples, including Factor VII activity (FVIIc) and fibrinogen.
Result: FVIIc levels were increasing slightly with fish intake frequency in older population (age 65-79) in men and women (trend, p=0.09 in men, P=0.18 in women), and in middle-aged population (age 50-64) in women (trend, p=0.02). No tendency and no association were seen between fish intake and factor VIIc levels in younger population (age 30-49) in both men and women, and in middle-aged population in men. Fibrinogen levels were higher in the group of 'almost none' than in the groups 'once to twice a month' or 'once or twice a week', and also higher in the group of 'almost everyday' in middle-aged and older population in men and women, but no significant association was seen in them.
Conclusion: The result suggested that intake of moderate amount of fish might be helphul for cardiovascular risk factors, compared with high and low amount of fish intake in middle-aged and older people.

28PM P1–12 SHOULD WE CARE ABOUT THE CHANGE OF RISK FACTORS TO ASSESS THE RISK FOR CARDIOVASCULAR DISEASE ATTACK?

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Purpose: There are few studies to focus on the change of physical findings as risk factors for cardiovascular diseases(CVD) in Japan. We investigated the relationships between the changes of classical risk factors and the incidence of CVD.
Methods: 4,637 men in Osaka, aged 40-69 without clinically evident stroke or ischemic heart disease(IHD) were examined at least 3 times during 1975-1984, and have been followed for an average of 132 months after last examination. We calculated slopes and intercepts (at January in 1975) of trend for total cholesterol(TC), systolic blood pressure(BP), and diastolic BP during 1975-1984 on calendar month by linear regression equations.
Results: After adjusting for age and an intercept of TC trend by Cox's proportional hazard model, and comparing the lowest quartile of slope of TC trend, hazard ratios of the 2nd, the 3rd, and the highest quartile, were 1.92($p<0.10$), 1.61(NS), 3.06($p<0.01$) respectively for IHD, and were 1.50(NS), 1.61(NS), 2.09($p<0.05$) respectively for CVD. When controlling for age, intercept of TC trend, body mass index, BP, smoking, and alcohol intake, the slope of TC trend was an independent risk factor of IHD incidence. Similar results were observed on both blood pressures.
Conclusion: These results suggest that we should pay attention to not only levels of risk factors but also the changes of them to know the risk for CVD attack.

28PM P1–13 RISK FACTORS FOR CEREBRAL INFARCTION IN JAPAN-PROTECTIVE EFFECT OF BEANS

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Purpose: To investigate risk factors for incidence and death of cerebral infarction.
Subjects and methods: Subjects were from 28,000 residents over 35 years of age, living in Saku-city, Nagano, who responded to the questionnaire on habits, food and past history in January, 1989. Cases were those who newly acquired the disease between January, 1989 and March, 1997. The information on the incidence and death was obtained from circulatory disease registry in this area and death certificates. Each case was matched with 1-6 controls by sex and age (within 3 years), who were without past history of the cerebrovascular diseases and alive when the case acquired the disease. Odds ratios (OR) and its 95% confidence intervals were calculated using the data sets.
Results: Number of the data sets were 369 for incidence and 141 for death. ORs(95% confidence intervals) of products of soy beans (tofu) were 0.6(1.2-3.7) for incidence and 0.5(0.3-1.0) for death, and those of boiled beans were 0.7(0.5-0.9) for incidence and 0.6(0.4-1.0) for death.
Conclusion: Products of soy beans and other beans may be protective factors against cerebral infarction.

28PM P1–14 RISK FACTORS FOR CARDIOVASCULAR AND ALL-CAUSE MORTALITY UNDER THE OBSERVATION OF STROKE IN A JAPANESE RURAL COMMUNITY

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Purpose: It is not clear whether any of stroke risk factors paradoxically affects non-stroke and all-cause mortality. We evaluate a possibility of such conflictions in a community based cohort.
Methods: Two thousand three hundred and sixty-one subjects aged 40 years and over were followed up for 15.5 years from 1977 in a rural community in Japan. Using the Cox proportional hazard model and a newly developed statistical method to test a confliction, the relations between stroke risk factors and death rates from non-strokes or all causes were compared.
Results: Obesity in the middle-aged was a significantly conflicting factor between stroke and heart deaths (sex and age adjusted hazard ratios were 0.35 for stroke deaths, and 2.70 for heart deaths, $p<0.05$ by the confliction test). Elevated diastolic and mean blood pressure in the elderly were suggestive conflicting factors between stroke and cancer deaths (adjusted hazard ratios for a one standard deviation increase of blood pressure were 1.21 and 1.19 for stroke, 0.73 and 0.73 for cancer, $p<0.1$ and $p<0.1$ by the confliction test).
Conclusion: Although some paradoxical relations were observed, it is likely that the control of stroke risk factors would decrease the over-all deaths in this community.

28PM P1–15 INFLUENCE OF THE DIFFERENCE BETWEEN TWO PERIODS ON THE DEVELOPMENT OF HYPERTENSION IN MIDDLE-AGED, URBAN JAPANESE MEN IN 1980s AND 1990s -OSAKA HEALTH SURVEY-

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Purpose: The aim of this study is to clarify the difference of periods between eighties and nineties on risk factors for the development of hypertension. **Methods:** We conducted a prospective study among 1678 men in 1980s and 2338 men in 1990s in Japan, aged 35 to 44, without hypertension. During 4 years, 116 (6.9%) and 287 (12.3%) cases of hypertension were documented in eighties and nineties. **Results:** Adjusted relative risk of period between in eighties and in nineties was 1.53 (95% confidence interval, 1.20 to 1.96) using multivariate logistic analysis. Body mass index (BMI) and change of BMI, and heart rate as a positive risk factor and smoking as a negative factor in eighties and BMI, heart rate, alcohol consumption, and uric acid as a positive risk factor in nineties. **Conclusion:** We conclude that difference of periods affects the development of hypertension and that it is important to modify the lifestyle to prevent the development of hypertension.

28PM P1–16 WEEKLY AND SEASONAL VARIATION IN FREQUENCIES OF OCCURRENCE OF SUDDEN DEATHS AMONG JAPANESE WORKERS

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Purpose: These days particular attention has been paid to sudden deaths among Japanese workers. This study aimed to describe the weekly and seasonal variation of the sudden deaths which occurred among a representative sample of the working population in Japan.
Methods: Questionnaires were administered to the occupational health physicians inquiring cause, date, and other demographic information on sudden death cases which occurred among workers in the large-sized establishments in Japan during the period of 1988-92.
Results: Of 488 male sudden death cases which were reported, 362 were categorized to those caused by cardiovascular origin. A peak on Mondays and tendency to decrease toward weekend were found in the weekly variation. Two peaks of occurrence of sudden deaths, in March-April and November-December, were found in the seasonal variation. Those variation were found both in all 488 sudden death cases and in 362 cardiac cases and showed statistically significant departure from uniform monthly distribution ($p<.01$).
Conclusion: Male sudden death cases occurring in large-scaled Japanese companies were mostly cardiovascular origin. They showed a peak on Mondays with decrease towards weekend and a significant monthly variation peaking on March-April and on November-December, which could be explained by higher stress and fatigue from overtime work in the beginning of weeks and in those months.

28PM P1–17 REGIONAL INEQUALITY OF ISCHEMIC HEART DISEASE MORTALITY AND RISK FACTORS IN YOKOHAMA, URBAN AREA OF JAPAN

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Purpose: To study the regional inequality of ischemic heart disease (IHD) mortality and risk factors in urban area of Japan, we analysed regional age-adjusted mortality of IHD by 16 wards using the demographic data in 1991-93 in Yokohama City which has 3.2 milion population and had 50% higher age-adjusted IHD mortality (63.0/32.7 per 100,000, M/F) than the average of Japan (46.3/25.6) in 1990.

Methods: The demographic data by 16 wards in Yokohama City, 1991-93, were available to obtain population structure, death number of IHD and acute myocardial infarction (MI). Age adjusted mortality of IHD and MI were calculated by direct methods .

Results: Elderly population(%) varied from 6.6% (Midori) to 14.7 % (Nishi). IHD mortality (per 100,000) ranged widely from 50.1/26.2 (M/F) (Midori) to 78.9/32.9 (Naka) and MI as well from 32.7/18.1 (Kanazawa) to 56.6/25.2 (Naka). Health screening test by Health Centre of Naka ward, the highest IHD and MI mortality, for 1700 residents aged 40-65 showed significantly higher BMI and total cholestrol than those in Kanazawa, the lowest MI mortality, for 3500 residents of same age.

Conclusion: Regional inequality of IHD mortality were noted in Yokohama, urban area of Japan. Possible risk factor difference were also observed. Sytematic epidemiological observation and study are needed for proper Public Health Policy Making based on these inequalities.

28PM P1–18 BASELINE EXAMINATIONS OF THE TAKARAZUKA CIVIL SERVANTS STUDY: SUBJECTS AND METHODS

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Purpose: To present the subjects and the methods of the study in which the effects of psychosocial factors on health status are studied in a cohort of Japanese civil servants.
Methods: Subjects are one thousand and six hundred civil servants in Takarazuka City Hall. Baseline examinations are being taken place in Takarazuka Health Promotion Center from April 1997 to March 1998. Most of the examinations are done in the same manner as those of the Whitehall II study in the U.K. Examinations include anthoropometry measurements (height, weight, and waist and hip circuferences), blood pressure measurements using random zero sphygmomanometer, blood tests (total cholesterol, HDL cholesterol, triglyceride, fasting glucose, HbA1c, fibrinogen), and electrocardiogram. To ensure the repeatability of the examinations, 5% of the sample is invited 2 to 4 weeks later. In this sub-sample, 2-hour oral glucose tolerance and antioxidant vitamines are also examined.
Conclusion: Questionnaires on psychosocial factors and lifestyles are done during these baseline examinations. In a follow-up for at least five years, the effects of psychosocial factors on health status will be investigated in cohort of Japanese civil servants.

28PM P1–19 MORTALITY RATES OF SUBARACHNOID HAEMORRHAGE IN JAPAN, 1968-1994

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Purpose: The present study deals with the secular changes in the death rate from subarachnoid haemorrhage (SAH) and the effects of marital status and occupation of the head of the household on the SAH deaths.
Methods: The death rate from SAH was analyzed using only the death certificate records from all of Japan for the period 1968-1994.
Results: The age-adjusted SAH death rate remained nearly constant for men (7.1-7.9 per 100,0000 population) for 26 years, whereas the death rate for women increased from 1968 (6.1) to 1987 (9.5) and remained constant thereafter. The SAH death rates decreased year by year in the <45-year age group for men and <40-year age group for women, whereas the death rates increased year by year over these age groups for both sexes. The age-adjusted SAH death rate was 2.1 times higher in the divorced group than in the married group for men and whereas the death rate was 1.9 times higher in the widowed group than in the married group for women during the period 1986-1994.
Conclusion: Remarkable differences in the SAH death rates among the four marital categories might be related to some environmental factors such as nutrition, cigarette smoking, and life-style.

28PM P1–20 STUDY ON EPIDEMIOLOGY OF HYPERTENSION IN A CHINESE RURAL COMMUNITY

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Purpose: To study the epidemiology of hypertension in the population of rural area and understand the their level of knowledge of prevention and treatment about hypertension.
Methods: A survey was made for a total of 4791 peasants (2022 males and 2769 females) aged 35 and over in a rural community in China during April to May of 1995, using the method of cluster sampling.
Results: The total diagnosed hypertension prevalence of the sample was 12.42%, among which, the male prevalence was 13.38% and the female prevalence was 11.79%($P>0.05$), which was higher than the result of national sampling investigation. The result shown that there were significant dose-reaction relationship ($P<0.05$) between smoking and hypertension, and found the level of health knowledge about the prevention and treatment of hypertension was lower. Only 4.23% answered correctly the relationship between hypertension and much salt intaked, obese, smoking, and only 34.82% of hypertension patients could regularly take hypotensor. Also, it was lower that could correctly answer the relationship between hypertension and cardiovascular and cerebrovascular diseases.
Conclusion: We must strength the health education for population of rural area and propagate the knowledge of prevention and treatment in hypertension, and culture their good health behavior. The study is the base for further intervention of hypertension epidemiology in the area.

28PM P2–1 Factors related to changes to glucose intolerance in five years

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Purpose: To clarify the factors relating to changes to glucose intolerance in individuals.
Methods: In a rural population, we carried out glucose tolerance test and measured systolic blood pressure(SBP), diastolic blood pressure(DBP), serum cholesterol(T-Chol) and BMI(Body Mass Index) in 1991 and examined again in 1996. Out of 1374 participants in 1991, 776 peoples (56.5%) participated to the 1996 examination. In 1991 examination, 44, 140, 592 are classified to diabetes mellitus(DM), impaired glucose tolerance(IGT), and normal(N) respectively. We classified other factors into two categories(H-BP:SBP>=140 or DBP>=90, H-SBP:SBP>=140, H-DBP:DBP>=90, H-TC:T-Chol>=220, H-BMI:BMI>=24) using the information in 1991. The relationship between changes to glucose intolerance in five year interval and other factors were expressed by odds ratio(OR) controlled for age and sex. Logistic regression analysis in SAS is utilized to calculate OR.
Results: Previous histry of H-BMI(OR=2.26, 95%CI=1.56-3.28) and H-DBP(OR=1.91, 95%CI=1.08-3.36) were statistically significant and factors related to changes to glucose intolerance in five years.

28PM P2–2 RISK FACTOR ANALYSES AND PROPOSAL OF CONTROL CRITERIA FOR MACROVASCULAR COMPLICATION IN NONOBESE NIDDM PATIENTS

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Purpose: Macrovascular complications are the leading cause of morbidity and mortality in patients with diabetes. It is important to analyze risk factors of macroangiopathy(MA) in diabetic patients and to investigate control methods. In this study, we made risk factors analyses and proposal of control criteria for MA in NIDDM patients.
Methods: A total of 899 nonobese patients with NIDDM were registered from 40 facilities in Japan during 1990 to 1992. Of these, 386 subjects were identified as having MA. Univariate and multivariate analyses were conducted to examine risk factors. Cutoff points, the level beyond which a significantly higher prevalence of MA occured, were determined for six risk factors, fasting plasma glucose, systolic and diastolic blood pressure, serum total cholesterol level, serum triglyceride level and BMI.
Results: Univariate analyses revealed the following common risk factors for total MA:age, systolic or diastolic blood pressure, duration of DM, smoking, low HDL cholesterol level and higher LDL cholesterol/HDL cholesterol ratio. When the cutoff points were used as control criteria, the prevalence of MA was significantly lower in subjects whose six factor measurements remained under the proposed control criteria for four or more of the six variables.
Conclusion: Hypertension, dyslipidemia, smoking and duration of DM were found to be risk factors for MA in NIDDM patients. It was suggested the cutoff point could be used as the control criteia for patients with NIDDM.

28PM P2–3 Long-term prognosis of diabetes in the general population of two rural communities in Japan. —A prospective eighteen-year follow-up study—

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Purpose: Long-term prognoses were compared in individuals with and without glucose intolerance in Japanese general population.
Method: A prospective cohort study of 1,996 men and women (the ages from 40 to 64 years) at the baseline examination was conducted over an 18-year period, from 1977 to 1995, in two rural communities, Tanno and Sobetsu, Hokkaido, Japan. During this follow-up study ,177 people dropped out, and leaving 1,819 cases was available for statistical analysis. In the first year of the study, 885 cases were diagnosed as normal glucose tolerance, 798 cases as borderline diabetes, and 113 cases as diabetes.
Result: Of the 1,819 subjects , 256 died during the 18-year period. The main cause of death in glucose intolerance subjects was malignant neoplasms, followed by cardiovascular disease, and cerebrovascular disease. The survival curve for subjects with glucose intolerance was lower than for those without glucose intolerance. Cox's hazard regression model revealed a significant association between glucose intolerance and fatal events (relative risk 1.43 : 95%CI 1.02~2.00) only in men. The survival curve for the end point of cardiovascular mortality in subjects with glucose intolerance was lower than that in those without glucose intolerance ($p<0.05$).
Conclusion: In Japanese general population, glucose intolerance has relevance to the fatal events, especially , male cardiovascular death.

28PM P2–4 RELATIONSHIP BETWEEN THE DURATION OF OBESITY AND INSULIN CONCENTRATION: THE SOTETSU STUDY

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Purpose: To investigate the independent relation between the duration of obesity (body mass index (BMI) $\geq 25.0\ kg/m^2$) and plasma insulin concentration.
Design: Cross-sectional study.
Methods: We examined the association between the duration of obesity and plasma insulin, age independence, waist-to-hip ratio (WHR), fasting plasma glucose, physical activity, alcohol use, smoking status, and family history of diabetes, after stratification of BMI ($\geq$ or $<25.0\ kg/m^2$) among 1,144 Japanese male employees of a railway company, who were aged 30 years or older, observed for 10 years or more, free from serious disease conditions, and who had an initial BMI of less than $25.0\ kg/m^2$, and complete data.
Results: Plasma insulin concentration was higher in the subjects with any duration of obesity ≥ 0.1 years among those with a BMI $\geq 25.0\ kg/m^2$ (52.3 to 57.9 pmol/l) compared with those who had not been obese (41.4 pmol/l). On the other hand, only the subjects with 0.1-9.9 years of duration of obesity had a significantly higher insulin concentration (46.5 pmol/l) compared with never-obese subjects among those with a BMI $< 25.0\ kg/m^2$.
Conclusion: Plasma insulin level, which might reflect insulin resistance, was strongly and independently associated with current obesity rather than with the duration of obesity.

28PM P2-5 THE INSULIN RESISTANCE SYNDROME IN TAIWAN CHINESE: THE INTERRELATIONSHIPS AMONG ITS COMPONENTS ANALYZED BY LOGLINEAR MODELING

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Purpose: To investigate the clustering of insulin resistance syndrome, including hyperinsulinemia, hypertriglyceridemia, low high-density-lipoprotein cholesterol (HDL) level, hypertension, and obesity in population, we conducted this cross-sectional study and analyzed the patterns of conditional independence among these five elements.
Methods: Fasting insulin, lipid profiles, blood pressure and anthropometric data were examined in 1949 persons older than 35 years in a community, all are Taiwan Chinese. The cut-off points of these five factors as binary variables were clearly defined. The hierarchical loglinear regression with nested effects model was applied to fit this higher-order contingency table of five variables, and the likelihood ratio chi-square statistics were used to test the goodness of fit.
Results: Hyperinsulinemia was independently related with obesity (odds ratio [OR] 5.7, 95% confidence interval [CI] 4.5-7.3), low HDL (OR 2.3, CI 1.8-2.9), and hypertriglyceridemia (OR 1.6, CI 1.2-2.2), respectively. Hypertriglyceridemia was associated with low HDL significantly (OR 3.6, CI 2.7-4.8), and with hypertension (OR 1.3, CI 0.9-1.7), and obesity (OR 1.1, CI 0.8-1.6) non-significantly. In persons with normal triglyceride levels, hypertension was positively associated with obesity (OR 2.8, CI 2.1-3.7) and low HDL level (OR 2.0, CI 1.5-2.8). Analyses from forward and backward selection methods got similar results. Graphical models with conditional independence relationships among these five variables can be demonstrated.
Conclusions: The components of insulin resistance syndrome have intricate relationships and this quantitative study is to examine the degree of relationships among them. It suggests that there are different impacts in the pathogenesis of atherosclerosis due to insulin resistance syndrome.

28PM P3-1 CIGARETTE SMOKING AND ACCELERATED ANNUAL LOSS OF FORCED EXPIRATORY VOLUME IN ONE SECOND (FEV1) IN HEALTHY MALE JAPANESE WORKERS

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Purpose: To further investigate an association between cigarette smoking and acceleration of age-related FEV1 decline.

Methods: The forced spirograms of all male workers in two asbestos manufacturing plants were examined annually over 11 years. Analyses were conducted on 325 workers followed up satisfactory for at least five years with normal spirometric results and steady smoking status. The annual decline of FEV1 for each subject was calculated as the slope of a simple regression after correction for height.

Results: The amount of cigarette consumption was significantly associated with accelerated FEV1 decline even after controlling for several confounding factors. Its contribution is a further 9 ml annual loss in FEV1 if one continues smoking 20 cigarettes per day. This appeared to be well within the range reported previously for white populations in Europe and North America.

Conclusion: These results support the previous finding that the sensitivity of Japanese men to cigarette smoke is comparable to that of white population in terms of the acceleration of FEV1 decline.

28PM P3-2 EFFECTS OF ALCOHOL CONSUMPTION ON RISK FACTORS AND HEALTH INDICATORS OF CARDIO- AND CEREBROVASCULAR DISEASES IN MALE JAPANESE WORKERS

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Purpose: We examined effects of alcohol consumption on blood coagulation and fibrinolysis systems and other risk factors of cardio/cerebrovasluar disease (CVD) in male Japanese workers. Effects on sensitive CVD indicators were also evaluated.
Methods: The study subjects were 822 male Japanese workers (18-49 years of age). Information on drinking habit and other risk factors were collected through a self-administered questionnaire, and daily alcohol consumption for a habitual drinker was calculated. Blood indices measured were total cholesterol, lipo- and apolipo proteins, HbA_{1c}, D-dimer, thrombin anti-thrombin III complex, tissue plasminogen activator(tPA), plasminogen activator inhibitor-1, triiodothyronine (T_3) and liver function tests. Blood pressure, arterial stiffness (pulse wave velocity for aorta and ultrasound measurement for carotid A.) and number of lacunar infarctions by brain MRI were evaluated as CVD indicators. Crude mean or prevalence was compared across four categories of alcohol consumption (Non/Occasional, -25, 25-50, 50+g/day) with age-stratification. Multivariate analysis were also employed.
Results: High-density lipoprotein (HDL) and apolipo protein A-I (Apo A-I) levels significantly increased and T_3 level decreased, in a dose-dependent manner in the 30 y/o or older subjects, even after controlling for the confounders. Adjusted relative changes between non-drinkers and 50+g/d drinkers were +22.1% for HDL, +19.7% for Apo A-I, and -11.7% for T_3. Among indices of blood coagulation and fibrinolysis systems, tPA slightly but significantly increased with relation to alcohol consumption by multiple regression analysis (relative change of non- vs. 50+g/d drinkers: +15.4%). Systolic and diastolic blood pressure (BPs) levels significantly elevated in the 50+g/d drinkers compared to non-drinkers (adjusted difference: 7.9mmHg). Risk of lacunar infarctions also increased in 50+g/d group as compared to 25-50g/d group (prevalence 11.2% vs. 3.9%; adjusted odds ratio=3.97, $P<0.05$).
Conclusion: Regular alcohol consumption significantly related to HDL, Apo A-I, and T_3 levels, BPs, or prevalence of lacunar infarction. Its effect on blood coagulation and fibrinolysis systems is, however, unclear, and further follow-up is necessary.

28PM P3-3 RELATIONSHIP BETWEEN PASSIVE SMOKING AND LUNG CANCER – EFFECT OF OMITTED UNHEALTHY LIFE-STYLE AS A CONFOUNDING FACTOR

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Purpose: Effect size of omitted unhealthy life-style (UHLS) as a confounding variable in epidemiologic studies on relationship between passive smoking (environmental tobacco smoke, ETS) and lung cancer is obtained.
Methods: A method of obtaining odds ratio for pure relationship between ETS and lung cancer in the epidemiologic study area adjusting effect of a confounding variable UHLS was developed, when (1) odds ratio between ETS and UHLS, (2) proportion of persons with ETS, (3) proportion of persons with UHLS, (4) odds ratio in epidemiologic study on relationship between ETS and lung cancer omitting UHLS in statistical analysis, and (5) odds ratio in epidemiologic study on relationship between UHLS and lung cancer omitting ETS for non-smokers are given. The calculation was performed using data of Hong Kong in the epidemiologic area.
Results: Using a result of a meta-analysis in the epidemiologic study area in Hong Kong and information on UHLS from epidemiologic studies in Hong Kong, the odds ratio for pure relationship between ETS and lung cancer adjusting effect of a confounding variable UHLS was obtained by the method. The odds ratio with due consideration for UHLS is nearly equal to that without UHLS.
Conclusion: It is revealed that the effect of ignoring UHLS is not large.

28PM P3–4 THE EFFECTS OF SMOKING AND ALCOHOL CONSUMPTION ON THE RELATION BETWEEN BODY WEIGHT CHANGE AND SERUM LIPID LEVELS.

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Purpose: The effects of cigarette smoking and/or alcohol consumption on the longitudinal relationship between change in body weight and changes in serum lipid (total cholesterol, HDL-cholesterol, triglyceride, β-lipoprotein) were investigated.

Methods: The subjects were 22,964 (aged 19-88y) Japanese who went to a health examination center for two consecutive years. (1) Changes in serum lipid by 1kg change in body weight controlled for gender, age, BMI, serum lipid level at baseline were estimated by different smoking and/or drinking status, respectively. (2) Assuming that their body weight didn't change, the effects of change in smoking and/or drinking behavior on serum lipids were estimated.

Results: (1) There were significant relationships between change in body weight and changes in serum lipid. The reduction in total cholesterol by weight loss was larger in smokers than in non-smokers, and change in HDL-cholesterol was larger in drinkers than in non-drinkers. (2) In the subjects who stopped smoking and/or drinking, total cholesterol and triglyceride didn't change significantly.

Conclusion: Changes in serum lipid by weight loss in smokers or drinkers were generally larger than those in non-smokers or non-drinkers. These results suggest that loss of body weight may be more effective in the improvement of serum lipids than stopping smoking and/or drinking.

28PM P3–5 SMOKING HABIT AND DRINKING HABIT OF RESIDENTS OF FARMING DISTRICTS IN JIANGXI PROVINCE IN CHINA

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[Purpose] The purpose of this survey was to clarify the life style (smoking habit, drinking habit) of the residents of farming districts in China.
[Methods] The survey was carried out on the residents (50,260 persons) of 30 years and over in the surveillance areas in Jiangxi province in China; Shanggao xian, Wuning xian, Jinxian xian and Gao'an xian. The survey items were actual conditions of the smoking habit, the drinking habit, etc. The survey was carried out during the period from 1994 to 1996, through the interview with each household by primary medical doctors.
[Results]

Smoking rates

Age	30-39	40-49	50-59	60+
male	77.8%	77.3%	77.9%	64.3%
female	-	3.6%	8.5%	8.4%
Alcohol	daily drinker	ex-drinker	no-drinker	
male	80.7%	55.4%	61.6%	
female	11.5%	11.8%	5.0%	

[Conclusion]The rates of smokers in China for males were about 77% from 30 to 59 years old, were decreased over 60 years old. The somking rates for male daily drinker were highest, and these rates for female daily drinker and ex-drinker were hightest .

28PM P4–1 CALIBRATION OF SEMI-QUANTITATIVE FOOD FREQUENCY QUESTIONNAIRE AGAINST 7-DAY WEIGHED DIETARY RECORD AMONG JAPANESE DIETITIANS

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Purpose: To calibrate measurements of macro- and micro-nutrients by semi-quantitative food frequency questionnaire (SQFFQ) against those of 7-day weighed dietary records (7DWDRs).
Subjects and Methods: On the basis of one-day WDRs among 351 individuals (171 males and 180 females), we designed a data-based SQFFQ according to cumulative contribution and multiple regression analyses. The SQFFQ was applied to 106 dietitians in Aichi Prefecture (22 males and 84 females) in autumn, 1996 and four-season 7DWDRs were carried out during 1996-1997. Figures of macro- and micro-nutrients based on the SQFFQ were calibrated against those of 7DWDRs.
Results: Values of SQFFQ for energy, protein, fat, and carbohydrate were compared with those of 7DWDRs. Means $\pm$SD of energy(kcal), protein(g), fat(g), and carbohydrate(g) based on SQFFQ vs. 7DWDRs were 1,870$\pm$425 vs. 1,895$\pm$317, 75.8$\pm$20.0 vs. 76.8$\pm$14.0, 63.2$\pm$21.4 vs. 59.1$\pm$13.5, and 237.5$\pm$51.1 vs. 249.0$\pm$42.4, in that sequence. Pearson's correlation coefficients for energy (de-attenuated), protein, fat, and carbohydrate (energy-adjusted and de-attenuated) were 0.58, 0.55, 0.55, and 0.62, respectively ($p<0.01$).
Conclusion: In accordance with these calibration and validation studies, the SQFFQ will be revised and administered to Japanese dietitians, who will then be followed to clarify the association between diet and health.

28PM P4–2 COMPARISON OF SPECIFIC LIFESTYLE CHARACTERISTICS OF JAPANESE SDA WITH BASELINE RESULTS OF JAPANESE IN THE MONBUSHO LARGE-SCALE COHORT STUDY

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Purpose: Seventh-day Adventists advocate a vegetarian diet and abstinence from alcohol and smoking. Several previous studies have shown lower mortality from cancer and cardiovascular disease in SDAs. A cross-sectional study of the lifestyle of the approximately 13,000 SDAs in Japan was conducted for comparison with the general population represented by the baseline results of the Monbusho Large-Scale Cohort Study(100,000 subjects).
Methods: Self-administered questionnaires were distributed to about 4,000 SDAs, over 30 years of age in January 1996, of which 2,119 questionnaires were collected, and 2,006 analysed. The baseline results of the Monbusho Large-Scale Cohort study were compared with these results for 32 items related to frequency of food intake, sleeping hours and breakfast.
Results: SDAs have a lower frequency of food intakes in 'Pork', 'Ham/Sausage', 'Liver', 'Fish', 'Coffee', 'Chicken', and 'Green tea', and high frequency of food intake in 'Yogurt', 'Tomato', 'Carrot', and 'Tea', compared with Monbusho Cohort. Sleeping hours were slightly shorter in SDAs while breakfast habit was almost same in both groups.
Conclusion: The results of the cross-sectional study of the lifestyle of Japanese SDAs, when compared with the results of the Monbusho Large-Scale Cohort Study in Japan showed some differences in frequency of food intake between SDAs and Monbusho Cohort Study.
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28PM P4–3 SERUM CHOLESTEROL REDUCTION AND DIETARY INTAKE CHANGES AMONG MIDDLE-AGED WOMEN : AN INTERVENTION TRIAL

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Purpose: The present intervention trial was designed to evaluate changes in serum cholesterol levels and nutrient intakes following structured dietary education for the period of six months.
Methods: A total of 44 middle- aged female participants with serum cholesterol levels between 230 and 279 mg/dl at the baseline examinations and without medication were randomly assigned to either a control or an intervention group according to their baseline serum cholesterol levels. We estimated nutrient intakes of all the participants on weekly basis during the prior month from dietary information collected through food frequency questionnaires with the help of food models. During a six- month study period, the participants in the intervention group were given dietary instructions every two months, and required to adhere to some other directions made for the present study.
Results: Only in the intervention group, daily intakes of total energy, total fat, saturated fatty acids and dietary cholesterol showed significant decreases ($p<0.05$), and polyunsaturated/saturated fat ratio (PS ratio) a significant increase at the end of the trial. Serum cholesterol decreased significantly by 8.4 mg/dl on average in the intervention group only. A stepwise multiple regression analysis, using the combined data of both the groups, revealed that serum cholesterol reduction occurred during the study period correlated significantly with the baseline serum cholesterol level, the changes in dietary cholesterol intake and PS ratio among 12 dependent variables such as changes in weight, intakes of protein and other nutrients.
Conclusion: The present results suggest that our six- month program can reduce serum cholesterol through the changes in dietary intake patterns.

28PM P4–4 DIETARY CALCIUM SOURCE AND BONE MINERAL DENSITY AMONG PREMENOPAUSAL WOMEN IN YOKOHAMA

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Purpose: To study relationship between dietary calcium source and bone mineral density(BMD) among Japanese females aged 20 to 40 years before menopause.
Method: We recruited 1658 females living in Yokohama city for BMD measurement by Computed X-ray densitometer (CXD) method and dietary questionnaire.
RESULT: As for dietary source of Ca, ratio of small fish which can be taken as a whole body was significantly negatively correlated with BMD by simple and multiple regression analysis adjusting for age and total Ca intake. Especially among those who have lower Ca less than 4200mg per week, those having higher consumption of small fish than 8% had significantly lower BMD than those with lower small fish than 8%.
Conclusion: These findings imply that small fish, possibly accompanied by higher salt diet, may influence BMD adversely among these population in terms of interaction between Ca and Na leading higher urinary excresion, which has been suggested by experimental and epidemiologic studies. Dietary source of Ca should be taken into account for prevention of osteoporosis.

28PM P4–5 REPRODUCIBILITY AND VALIDITY OF A SIMPLE FOOD FREQUENCY QUESTIONNAIRE FOR FOOD GROUPS

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Purpose: We evaluated the reproducibility and validity of a 97-item simple food frequency questionnaire (SFFQ) for food groups. The SFFQ was developed for epidemiological surveys among the middle-aged and the elderly in Japan.
Methods: This study was conducted among 45 men and 42 women, aged 41 to 88 years in Tokai area, Japan, from 1996 to 1997. The SFFQ was self-administered twice at an one-year interval to evaluate reproducibility. The relative validity was assessed by referring the mean of four 4-day dietary records performed at 3-month intervals as the standard. The SFFQ dose not include portion size questions except for rice, alcohol beverages and coffee, and then, intake amounts of most food groups were estimated based on standard portion sizes.
Results: Test-retest correlation coefficients for intake amounts of food groups ranged from 0.35 to 0.78. Age, sex and energy-adjusted correlation coefficients between estimated intake amounts based on the SFFQ and those based on dietary records ranged from 0.09 for seaweed to 0.74 for milk and dairy products (median=0.46). Coefficients of 0.45 or greater were observed for 10 food groups.
Conclusion: The SFFQ was found to be reproducible for food groups. Although it might be difficult to estimate food intake amounts without information on serving size, the SFFQ would be useful to evaluate intake for selected food groups.

28PM P4–6 REPRODUCIBILITY AND VALIDITY OF A SIMPLE FOOD FREQUENCY QUESTIONNAIRE FOR NUTRIENT INTAKE

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Purpose: We assessed reproducibility and validity of a 97-item self-administered simple food frequency questionnaire (SFFQ) for nutrient intake. The SFFQ was designed for middle-aged and older adults in epidemiological survey.
Methods: Eighty-seven subjects (45 men and 42 women) in Tokai area, Japan, aged 41-88 years, completed the SFFQ twice at an one-year interval (1996-1997) to evaluate the reproducibility. Portion size was not included in the SFFQ except for rice, alcoholic beverages and coffee. The SFFQ was validated referring four 4-day weighed dietary records (DRs) performed at 3-month intervals.
Results: Pearson correlation coefficients (de-attenuated, adjusted for energy intake, sex and age) between the first and second FFQ ranged from 0.48 to 0.81. The same coefficients between nutrient intake estimated by the SFFQ and that by the DRs ranged from 0.42 for iron to 0.82 for calcium (median=0.60). Mean values of energy and nutrient intake estimated by the SFFQ were similar to those measured by the DRs. On average, 71.3% of the subjects classified by the DRs fell into the same or within one quintile category when classified by the SFFQ.
Conclusion: The simple questionnaire was found to be well reproducible and sufficiently valid for epidemiological studies in Japan.

28PM P4–7 THE FOUR FREQUENCY CATEGORIES OF FRUIT INTAKE AS A STRONG PREDICTOR OF PLASMA LEVEL ASCORBIC ACID IN MIDDLE-AGED JAPANESE MEN

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Purpose: To assess the predictability of plasma level of ascorbic acid in Japanese men, its association with dietary sources of vitamin C and other lifestyle factors was examined.
Methods: In a cross-sectional study on 621 healthy men aged 40 to 49 years who were sampled randomly from five areas in Japan, the weekly intake frequency of foods rich in vitamin C (<1, 1-2, 3-4, ≥5 days/week), alcohol consumption per week, use of vitamin C supplements and smoking habit were interviewed using a food frequency questionnaire (FFQ) (all subjects) and 3-day weighed dietary records (DR) were obtained from 203 volunteers among them.
Results: In univariate analyses for data by FFQ, the intake frequency of fruit(r^2=0.12), of pickled vegetables (r^2=0.03), of potatoes (r^2=0.01) and alcohol consumption (r^2=0.02) were significant determinants for plasma ascorbic acid in addition to supplement use and study area. The four frequency categories of fruit intake accounted for 19% of plasma ascorbic acid among non-supplement users after adjusted for study area and alcohol drinking. The association with quartile of dietary vitamin C intake (mg/day) measured by DR was weaker (r^2=0.04) than that with dietary intake of fresh fruit (g/day) (r^2=0.09). The predictability of plasma ascorbic acid by a simple FFQ for fruit intake was superior to calculated vitamin C or fruit intake by detailed DR.
Conclusions: This study suggests that the four categoris of fruit intake by FFQ is a reliable predictor of plasma ascorbic acid regardless of only 25% source of dietary vitamin C, and indicators of other sources of vitamin C such as vegetables (over 50% source) were less predictable in healthy Japanese men. The finding may be attributable in part to cooking method of vegetables.

28PM P4–8 VALIDITY OF FOOD FREQUENCY QUESTIONNAIRE WITH PORTION SIZE INFORMATION FOR A POPULATION-BASED COHORT STUDY IN JAPAN

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Purpose: To test a self-administered dietary food frequency questionnaire with portion size information (FFQP) which was developed for a population-based cohort study on cancer in Japan.
Methods: Individual (58 male and 59 female subjects) daily nutrient intake for the previous year calculated from each administration of the FFQP was compared with the nutrient intakes calculated from a) 3-day food records collected one month prior to the FFQP survey. The FFQP were also validated among 20 male and 17 female volunteers by comparing the nutrient intakes calculated from the FFQP and b) 12 one-day records through a year.
Results: Spearman correlation coefficients between the several nutrients from the FFQP and a) were ranged from 0.2 to 0.5 for both men and women. Spearman correlation coefficients between those nutrients from FFQP and b) were ranged from 0.2 to 0.8 with a few exception for both men and women. The correlation coefficients when the information on portion size excluded were generally dropped.
Conclusion: The FFQP could be conditionally used for the cohort study. It is also suggested that a food frequency questionnaire should include the information on portion size.

28PM P4–9 COHORT STUDY ON MORTALITY AND SERUM LIPID LEVELS IN THE RESIDENTS OF HOKKAIDO, JAPAN

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Purpose: To investigate the relation between mortality and serum lipid levels or intake frequent of foods in the Japanese residents.
Methods: The six hundred thirty two subjects (291 males and 341 females), aged from 20-89y, were followed up for 14 years from 1982 in a rural community of Hokkaido, Japan. Serum levels of cholesterol and triglyceride were determined by the automatic analyzer. Intake frequent of foods was collected by the health nurses using the questionnaire. Hazard ratios and 95% of confidence intervals were calculated using Cox proportional hazard model after controlling for sex, age, and habits of smoking and alcohol drinking.
Results: The numbers of deaths for all causes (AC) and for circulatory diseases (stroke and coronary heart disease; CD) were 81 and 21, respectively. High mortality from circulatory diseases was closely related to high serum levels of cholesterol and triglyceride (H.R. for AC: 1.048, 2.022; H.R for CD: 1.342, 3.028) in comparing to the subjects with low levels. Mortality for circulatory diseases was inversely associated the intake frequent of seaweeds, fruits and fish.
Conclusion: The high levels of cholesterol and triglyceride, and low intake of seaweeds, fruits and fish also indicated to be a risk factor for mortality of circulatory diseases in community subjects of Hokkaido.

28PM P5–1 ASSESSMENT OF BONE TURNOVER IN CADMIUM-INDUCED RENAL TUBULAR DYSFUNCTION BY MEASUREMENT OF BIOCHEMICAL MARKERS: A CROSS-SECTIONAL STUDY

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Purpose: Bone lesions characterized by osteomalacia and osteopenia are found in cadmium (Cd)-exposed subjects, such as patients with Itai-itai disease. To clarify the pathogenesis of bone lesions in Cd-exposed subjects, the relationship between the degree of renal tubular dysfunction (RTD) and bone metabolism was examined.
Methods: Fifty-three women (65-76 years old) with RTD were studied. All were selected from the subjects of a population-based study conducted in the Cd-polluted Jinzu River basin in Toyama, Japan. Bone alkaline phosphatase (BAP), intact-osteocalcin (iBGP) and carboxy-terminal telopeptide of type I collagen (PICP) in serum as a marker of bone formation, and urinary excretion of pyridinoline (Pyr) and deoxypyridinoline (Dpyr) as a marker of bone resorption were measured.
Results: The subjects were divided into three groups according to their values of fractional excretion of β_2-microglobulin (FE β_2-m; <3, 3-<10, ≧10). Significantly decreased values of bone mass, serum phosphate, tubular reabsorption of phosphate (TmP/GFR) and creatinine clearance (Ccr) were detected in the subjects with FE β_2-m level over 10% compared to those with FE β_2-m level below 3%. All the bone remodeling markers significantly correlated with each other in the 53 subjects, suggesting that bone formation and bone resorption are coupled in cadmium-induced RTD. While there was no significant difference in all the markers between the three groups, the levels of BAP, iBGP, Pyr and Dpyr showed significant positive correlations with urinary excretion of *N*-acetyl-*β*-*D*-glucosaminidase (NAG). In the advanced stage of RTD with FE β_2-m level over 10%, NAG excretion tended to decrease due to the ablation of tubular epithelium.
Conclusion: This cross-sectional study showed that bone turnover in Cd-induced RTD was influenced by the functional renal mass indicated by urinary NAG or Ccr.

28PM P5-2 AN ELEVEN-YEAR FOLLOW-UP STUDY OF RENAL TUBULAR DYSFUNCTION IN MALE INHABITANTS OF A CADMIUM-POLLUTED AREA IN TOYAMA, JAPAN

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Purpose: The development of renal tubular dysfunction (RTD) induced by environmental exposure to cadmium (Cd) was examined in relation to the reduction of exposure to Cd in rice.
Methods: Sixty male inhabitants of the Cd-polluted Jinzu River basin and 20 reference subjects living in an adjacent area were studied twice, in 1985 and 1996. They were 58 to 67 years old at the initial study in 1985.
Results: In the Cd-polluted Jinzu River basin, extensive reclamation of polluted rice fields has been conducted since 1979; as a result, the average Cd concentration in polished rice consumed by the subjects in the 1996 study (0.09 ppm) was significantly lower than that in the 1985 study (0.18 ppm). The mean values of urinary excretion of β_2-microglobulin (U β_2-m) (2.21 mg/g Cr. and 0.22 mg/g Cr.) in the follow-up study were significantly higher than those obtained at the initial examination (0.86 mg/g Cr. and 0.09 mg/g Cr.) in Cd-exposed subjects and reference subjects, respectively. The magnitude of increase of U β_2-m between 1985 and 1996 in Cd-exposed subjects was significantly higher than that in the reference subjects. The subjects were graded according to their values of U β_2-m (<1, 1-<3, 3-<10, 10-<30, ≧30). At the follow-up study, of the 60 Cd-exposed subjects, 27 (45%) changed to a higher grade, 32 (53%) were unchanged, and one subject changed to a lower grade. In the reference group, at the initial study all subjects belonged to the lowest group with U β_2-m level <1 mg/g Cr., and only one subject (5%) changed to a higher group at the follow-up study.
Conclusion: RTD found in the inhabitants of the Jinzu River basin is irreversible and progressive, and new cases of RTD were recognized over a period of 11 years, despite the fact that exposure to Cd in rice has decreased for the past 11 years.

28PM P5-3 AN ECOLOGICAL STUDY ON ENVIRONMENTAL BENZENE AND CHILDHOOD LEUKAEMIA IN SOUTH EAST ENGLAND

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Purpose: To determine the relationship between benzene and other environmental exposure and childhood leukaemia.
Methods: Design - Ecological study utilising the Geographical Information System in South East England. Leukaemia cases - All leukaemia cases aged 0 - 15, who were diagnosed between 1985 and 1995 and registered by either Thames Cancer Registry in London or Childhood Cancer Research Group in Oxford. Analyses - Expected leukaemia cases based on age and sex adjusted population by enumeration district (ED) were calculated. Observed / expected ratios by benzene concentration per roads were derived as incidence rate ratios (IRRs) through Poisson regression .
Results: Altogether 1,096 leukaemia cases (643 boys, 453 girls) were identified. Acute lymphoblastic leukaemias (altogether 862 cases; 79%) were dominant in both boys (77%) and girls (81%). Acute myeloid leukaemias (altogether 132 cases; 12%) were the second common leukaemia. Benzene concentration per roads was higher in inner London area. IRR for 2 to 4.9 ppb was 1.11 (95% confidence interval: 0.97-1.27); for 5 and above was 1.21 (95%CI: 0.99-1.49), respectively, when reference concentration was set under 2 ppb after adjusting age, gender, and deprivation by ED. Therefore, IRR by benzene concentration was significant ($p<0.001$).
Conclusion: There is a significant geographical association between all leukaemias and benzene concentration per roads.

28PM P5-4 MORTALITY OF NON-CANCERS AMONG THE INHABITANTS IN HIGH BACKGROUND RADIATION AREA (HBRA), YANGJIANG, CHINA

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Purpose: We estimate risks of cancer and non-cancer in the inhabitants in Yangjiang High Background Radiation Area (HBRA), where they were exposed to three times higher terrestrial radiation for generations.
Methods: We conducted a cohort study during 1987-1990, which covered 78614 members in Yangjiang (exposed group) and 27903 in neighboring county, Enping (control group). Person-years and number of deaths were aggregated and stratified by sex and age. Poisson regression analysis was used to compare the mortality in HBRA and control area.
Results: One hundred and sixty cancer deaths, 1441 non-cancer deaths and 71 cancers, 549 non-cancers were observed in exposed and control groups respectively. Compared to control group, RR of cancer was 0.93 (95% CI 0.99-1.20) in exposed group; RR of non-cancer (accidents excepted) was 1.14 (95% CI 1.02-1.27).
Conclusion: Further studies are necessary to evaluate the risks of cancer and non-cancer in HBRA.

28PM P6-1 USE OF HIGH-DOSE COMBINED PILLS IN JAPAN: A COMMUNITY STUDY ON PREVALENCE AND HEALTH CHARACTERISTICS OF THE USERS

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Purpose: Because of the ban on oral contraceptive use in Japan, only high-dose combined pill, permitted as treatment for menstrual disorders, can be used as a contraceptive. We conducted a survey in a community in Japan to determine the prevalence of use of such preparations (referred to as HDCP) and assess the health characteristics of the users.
Methods: A total of 18,435 female residents aged 35 years and over in a city of Gifu Prefecture, Japan, responded in 1992 to a health questionnaire which included questions on the use of HDCP, lifestyle and dietary habits. The response rate was 92%.
Results: The rates of current and past HDCP use were 1.3% and 7.1%, respectively, in women aged 35-49 years. 2.2% of them had used HDCP for the longest time as a method of contraception. Current HDCP users were more likely to be smokers. They had lower intakes of carotene, fiber, vitamins C and E and a lower polyunsaturated/saturated fat ratio than never-users.
Conclusions: The prevalence of HDCP use was 1.3% in Japanese women aged 35-49 years. Potential risk factors for cardiovascular diseases such as smoking and a diet with lower intakes of antioxidants were prevalent in current HDCP users.

28PM P6-2 LOW BIRTH WEIGHT AND BLOOD PRESSURE, SERUM LIPID CONCENTRATIONS, AND BODY MASS INDEX AT AGE 10 AND 13 YEARS IN A JAPANESE RURAL COMMUNITY

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Purpose: To examine the hypotheses that birth weight predicts blood pressure, serum lipid concentrations, and body mass index.
Methods: A total of 9,217 school children at 4th grade and 7th grade were examined from 1992 through 1996 in a rural community in Japan. The prevalence ratios for being in the sex- and grade-specific unfavorable categories of blood pressure, serum lipid concentrations, and body mass index in children born with low birth weight (<2,500g) versus those with birth weight ≧2,500g were calculated per grade-sex group.
Results: The prevalence ratios for being high systolic blood pressure (≧135mm Hg) in 4th grade children born with low birth weight versus those with birth weight ≧ 2,500g were 3.08 (95% confidence interval 1.42-6.70, $p<0.01$) for girls, and 0.38 (95% CI 0.05-2.77) for boys. Those for being high diastolic blood pressure (≧85mm Hg), high total cholesterol (≧200mg/dl), low HDL-cholesterol (<40mg/dl), high triglyceride (≧160mg/dl), and high body mass index (≧20kg/m^2) were not related to low birth weight ($p>0.05$). The prevalence ratios for being high triglyceride (≧160 mg/dl) in 7th grade children born with low birth weight versus those with birth weight ≧2,500 were 1.65 (95% CI 0.70-3.89) for girls, and 1.28 (95% CI 0.51-3.24) for boys. The mean value of triglyceride in 7th grade girls with low birth weight was significantly higher than that in girls with birth weight≧2,500g (85.2 mg/dl vs. 73.6 mg/dl, $p<0.01$). The corresponding values for boys were 73.9 mg/dl vs. 68.8 mg/dl, but the difference was not significant ($p=0.20$).

28PM P6-3 PERINATAL MORTALITY OF TWINS IN RECENT JAPAN

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Purpose: This study is intended to clarify the difference in secular trends of perinatal mortality between like-sexed and unlike-sexed twins.
Methods: From twins born from 1975 to 1994, 368,045 birth certificates, 42,172 still-birth certificates, and 7,711 early neonatal death certificates were analized. 97.8% of twin pairs and 96.5% of corresponding birth and death certificates pairs were identified. Perinatal mortality rates were calculated every year from 1979 to 1994. Logistic regression analysis was undergone with dependent variables of perinatal deaths in the years 1984 & 1994.
Results: Perinatal mortality rate decreased with the same speed in like-sexed and unlike-sexed pairs from 1979 to 1984, while after 1985, decrease became slow in unlike-sexed pairs. Odds ratio of unlike-sexed was 0.56(0.41-0.78)in 1984 compared to 0.72(0.54-0.97)in 1994, with the baselines of like-sexed twins.
Conclusion: Unlike-sexed twins became relatively not so safe than like-sexed compared to ten years before. This suggests relative increase in risk in dizygote twins that are supposed to be increasing due to the therapy for infertility.

28PM P6-4 MOTHERS' EFFECTIVE FACTORS FOR 3-YEAR-OLD CHILDREN'S TOOTH-BRUSHING HABIT BY THE INVESTIGATION OF MUTUAL (CHILD AND MOTHER) QUESTIONNAIRE

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Purpose: It is expected that mothers' thinking and habits for the health affairs influence on their children's health behaviors. We evaluated mothers' effective factors for 3-year-old children's tooth-brushing habits after a meal/before going to bed by the investigation of mutual questionnaire to children and their mothers.
Methods: The subject was 345 pairs had taken 3-year-old children's health examination at a health center in Kagawa Prefecture. Using the multivariate analysis (quantification method type II: response variable, children's tooth-brushing; explanatory variables, 22 items related with mothers' health knowledge, consciousness, attitude and behavior), we investigated the relations between them.
Results: Children's tooth-brushing habits after a meal/before going to bed had significant relationships with their mothers' health related affairs (discriminant boundary score, 0.203/0.017; correlation ratio; 0.616/0.551, respectively). The mothers' factors strongly related to children's tooth-brushing after a meal/before going to bed were, "tooth-brushing after a meal", "taking the lactic acid drinking before going to bed", "tooth-brushing before going to bed" by the former, "tooth-brushing before going to bed", "hand-washing before a meal", "teaching methods to prevent their children from dental caries" by the latter, in order.
Conclusion: Appropriate mothers' own dental health knowledge, consciousness, attitude, behavior and the influence on their children's dental hygiene could be effective for their 3-year-old children to practice tooth-brushing.

28PM P6-5 MOTHERS' EFFECTIVE FACTORS FOR 3-YEAR-OLD CHILDREN'S TOOTH-BRUSHING HABIT BY THE INVESTIGATION OF MUTUAL (CHILD AND MOTHER) QUESTIONNAIRE AS COMPARED WITH HAND-WASHING

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Purpose: The influences of mothers' own daily habits (mainly on dental affairs) for 3-year old children's tooth-brushing was verified by the former report. We investigated the peculiarity of children's tooth-brushing concerning the effectiveness by the mothers' own daily habits as compared with children's hand-washing.
Methods: The subjects (all data was equipped) were 254 pairs for tooth-brushing and 251 pairs for hand-washing out of 345 pairs at a health center in Kagawa prefecture. Using the multivariate analysis (quantification method type II: response variables, tooth-brushing after a meal or hand-washing before a meal; explanatory variables, 22 items related with mothers' own daily habits), we examined the difference between the mothers' effectiveness on children's tooth-brushing and hand-washing.
Results: Relationships between children's tooth-brushing/hand-washing and the mothers' daily habits were similar (correlation ratios, 0.62/0.57), but different in contents. The mothers' factors strongly related to children's tooth-brushing after a meal/hand-washing before a meal were, "tooth-brushing after a meal", "taking the lactic acid drinking before going to bed", "tooth-brushing before going to bed" by the former, "hand-washing before a meal", "taking the lactic acid drinking before going to bed", "teaching methods to prevent their children from dental caries" by the latter, in order,
Conclusion: As for the influences of mothers' own daily habits on their children's tooth-brushing before a meal and hand-washing after a meal, similar correlation tendencies were observed for 3-year-old children.

28PM P7–1 RELATIONSHIP BETWEEN SELF-RATED HEALTH AND AGING-RELATED SYMPTOMS AMONG THE ELDERLY

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Purpose: To observe the relationship between self-rated health and aging-related symptoms.
Methods: The subjects were 2852 males and 4118 females aged 60 years or older that responded to a common questionnaire used in a cross-sectional study conducted between 1994 and 1995 in 5 towns in Japan. Logistic models were applied separately for men and women. Self-rated health was used as a purpose variable, and 16 aging-related symptoms were used as explanatory variables for the models.
Results and Conclusion: Aging-related symptoms that had significant relevance with self-rated health for both males and females were 'become depressed', 'easy to fall down', 'problem of bowel movement', 'easy to lie down', 'feel cold', 'dizziness'. 'Go toilette in the midnight' and 'have difficulty to pass urine' had significant relevance with self-rated health for males specially. The odds ratios for 'become depressed' (1.71 for males and 2.03 for females) had the highest relevance with self-rated health both for males and females.

28PM P7–2 RELATIONS BETWEEN DEMENTIA AND OTHER NEUROLOGICAL FINDINGS

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Purpose: It's not clear if there is any relation between dementia and other neurological findings. We evaluate it considering age and sex.
Methods: The subjects were one thousand four hundred and eighty-eight men and women in a rural community , aged 55 and over, who received neurological examination during the period from 1991 to 1996. Using Mini-Mental Scale (MMS) as the scale for dementia, we conducted regression analysis to examine the relationship between MMS and various neurological findings.
Results: MMS score was related to some abnormal neurological findings in cross-sectional analysis. In longitudinal analysis, the decrease of MMS score over years was related to the presence of some abnormal neurological findings in the first exam.
Conclusion: Further analysis is necessary to evaluate the relationship between MMS and various neurological findings.

28PM P7–3 Prospective study of osteoporotic fractures in the community elderly in Japan.

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Purpose: Osteoporosis and its associated fractures are now epidemic skeletal disease among the elderly in Japan. In this population-based and prospective study, the incidence and related risk factors for osteoporotic fractures were investigated in the elderly living in different two (urban and rural) communities in Japan.
Methods: Baseline surveys on these two cohorts were carried out in 1991 and 1992 and the participants were followed annually by the same manner to 1996. To analyze the risk factors for fracture, 28 variables from questionnaire and 13 variables from medical examination were selected and analyzed by a case-control (1:3) study in the female data.
Results: The occurrence of fracture during follow-up period was 52 cases (M=12, F=40) in the urban and 28 cases (M=7, F=21) in the rural cohorts. The incidences were 0.5 (/100 person-years) in males and 2.0 in females in the urban and 0.2 in males 0.8 in females in the rural cohort, respectively. The incidence increased by increasing of age only in the urban cohort. Average age of the person received fractures was significantly higher in the urban than in the rural area. A case-control study revealed that the history of falls is by far the most important and potential risk for fractures particularly for the urban elderly.
Conclusion: Although there was a different pattern of incidence of the fractures among the elderly between urban and rural areas, our findings make sure the urgent need for effective fall prevention for community elderly in Japan.

28PM P7–4 INCIDENCE OF FRACTURES AND RISK FACTORS FOR IT AMONG THE ELDERLY LIVING IN THE COMMUNITY

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Purpose: Limited researches on falls among the elderly living in a community have been conducted in Japan. No population-based data on risk factors for fractures by a longitudinal analysis are available in Japan. We reveal the incidence of fractures and risk factors for it among the elderly people living in a rural community, Japan.
Methods: Of the 1399 subjects aged 65 and over, 1317 persons (532 men and 785 women having an average age of 73.1 and 74.4 years respectively) responded to the baseline survey by a door-by-door interview in 1992. Data on fractures were obtained from health insurance records of reimbursement which were written by doctors.
Results: The rate of subjects who experienced falls was 17.7% for men and 20.6% for women. There was no significant difference in the fall rate between the sexes. Subjects aged 80 and over had higher incidence of fractures during three year than those who aged 70 to 79. We calculated that an annual incidence of fractures would be 3.7% for men and 4.8% for women, 4.0% for those who aged 70 to 79 and 5.1% for those who aged 80 and over, respectively. Among the variables adopted at the baseline survey, only fall experience during the baseline survey was significantly related to occurrence of fractures ($p < .01$).
Conclusion: Fall experience was an important risk factor for fractures as well as for falls. Factors related to femoral or other fractures couldn't be identified in our study.
(This study was conducted in cooperation with Niigata Prefectural Tokamachi Health Center and Nakazato Village Office.)

28PM P8–1

Residents' reaction and perception to request of donating additional blood for research in an epidemiological study in Japan.

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Purpose: For elucidating residents' perception toward a request for donating additional blood for research purpose in an epidemiological study, a questionnaire survey was performed.

Methods: The subjects were middle-aged residents in a rural population in Japan. Ninety-six of 120 randomly selected residents participated in the survey monitoring lifestyles. Before the sampling, they were, both verbally and in writing, informed of the purpose, sampling volume, that additional venipuncture was not necessary,that there would neither be direct benefit if accepted nor disadvantage if refused. A questionnaire survey, which was known by neither the subjects nor information providers in advance, was conducted 1 month after the sampling.

Results: Additional blood drawing was approved 95 out of 96 subjects with individual signed consent. The questionnaire survey (response rate 88%) showed that 92% acknowledged this donation, 87% approved it and 73% recognized the purpose as research. Reasons for agreeing to the request were "to be able to get health checkup" (61%), which was inappropriate for the given explanation; "no special reason to refuse" (56%);"want to contribute to advancement of medicine" (31%); and "not easy to refuse"(4%). Differences related to sex or educational level were scarcely observed.

Conclusions: Potential participation in research among general residents was high even with the formal procedure of informed consent. However, some discrepancies between information provided by researchers and the understanding of residents existed in such type of study.

28PM P8–2

Nested Consent Design: Its Application for a Smoking Cessation Follow-up Study

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Background: Since random allocation of intervention or treatment is rarely accepted by eligible participants, a new "nested consent" design for intervention or clinical trials is proposed.
Proposed Design: The design consists a two-step enrollment of study subjects. The first is the enrollment of participants into a cohort study, where consent to be subjects involved in follow-up is obtained. The second is the enrollment of randomly sampled eligible participants into intervention or new treatment group(s). After the explanation of 1)intervention or treatment mode, 2)additional burdens associated with the proposed intervention or treatment, and 3)expected effects and possible adverse events, a written informed consent is obtained. Endpoints are set to be the same for all cohort participants whether sampled or not, and follow-up is done in the same manner. Analyses are made between the sampled and non-sampled on an intent-to-treat basis.
Application: This design was applied in a smoking cessation program at Aichi Cancer Center Hospital for first-visit patients who answered in a questionnaire survey that they were smokers. Out of 1330 necessary participants, 31 were enrolled in the cohort during the first week of enrollment.
Conclusion: The design was found feasible for prevention trials, and possibly for clinical trials to compare a new treatment with a standard treatment. There is no difference in ethical points between this design and the one-arm study design.

28PM P8–3

SIMULATION AND ASYMPTOTIC RESULTS OF INFLUENCE OF Δ IN A Δ TEST IN A TWO BY TWO CONTINGENCY TABLE

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Purpose: Influence of medically meaningful difference Δ in a Δ test was studied, which was considered as a way of stabilizing results caused minute change of cell frequencies and of putting statistical significance closer to medical sense in an one sided equality test of two proportions in a two by two contingency table using Fisher exact probability in a small sample.

Methods: The influence of Δ on P-value of a Δ test on the ordinal Fisher exact probability was calculated exactly with numerical simulation and was expressed with an asymptotic expansion up to 3rd order in various sample sizes.

Results and Conclusion: When total sample size was 20 and possible 969 combinations of cell frequencies were simulated, the differences between Fisher exact probability(Δ=0) and P values of (Δ=0.01, 0.05, 0.10) ranged 0-0.042(Δ=0.01), 0-0.182(0.05), 0-0.318(0.10), and their means were 0.011, 0.051, 0.098, respectively. When cell frequencies were not balanced, Δ tended to act largely. Asymptotic expansion showed that coefficients of Δ were expressed by using Fisher exact probability of contingency tables which cell frequencies were minutely changed.

28PM P8–4

BIAS ASSOCIATED WITH USE OF FAMILY HISTORY AS A SURROGATE FOR GENOTYPE IN FOLLOW-UP STUDY

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Purpose: Misclassification bias is an important problem in epidemiologic studies and nondifferential misclassification biases the result toward the null for dichotomous exposure. Genotype misclassification arises in studies of familial aggregation of disease if family history is used as exposure. We studied the effect of such bias in a follow-up study and take into account the effect of competing risk.
Methods: We used hypothetical data to estimate genotype risk ratios(conditional genotype probability matrices). We compared this with family history risk ratios among different type of relatives and for different disorders.
Results: We found that family history risk ratios were biased considerably toward unity for all type relatives and for both autosomal and recessive disorders. These findings are consistent with previous studies. Our result also indicated that competing risk affects the magnitude of the bias. The correlation between genotype and competing risk is also important in the magnitude of bias.
Conclusion: In follow-up study, family history information should be used with caution since it brings bias to the result. The situation is much more complicated when there is correlation between genotype and other competing risks.

28PM P8–5 SAMPLING SCHEMES FOR ESTIMATING NORM, GROWTH AND VELOCITY

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PURPOSE: To compare the efficiency of the linked cross-sectional scheme with the pure cross-sectional and pure longitudinal schemes for estimation of norm, growth and velocity. Generalized estimation procedures have to be developed with the expressions for the optimum estimators along with their variances.

METHOD: The studies relating to growth of children generally cover the age from 0 to 18 years. In these studies, the parameters of interest are the norm (i.e,the average of the characteristic under study), growth (i.e. change in average) and velocity (i.e. change in the growth) at different ages during the period. For this, generally longitudinal schemes are used which take long time,pose a number of organisational problems and involve more expenses. In these situations, linked cross sectional scheme (LCS) considered by Rao & Rao (1966) is more feasible, less expensive and permits a more carefully planned collection of data.

Singh and Yadav (1991) studied Linked Cross Sectional Scheme for studying as well as for estimating the growth of children. An attempt has been done in this paper to compare the efficiency of the Linked cross sectional scheme with the longitudinal and cross sectional schemes for estimation of norm, growth and velocity during the period of growth of children.

CONCLUSION:It has been observed that the linked cross sectional scheme provides more efficient estimators as compared to pure cross-sectional and longitudinal schemes.

28PM P8–6 BONE MINERAL DENSITY DIFFERENCE BETWEEN THE PARAPLEGIA AND THE QUADRIPLEGIA

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Purpose: Although osteoporosis is well known complication of spinal cord injury (SCI), the mechanism of the bone mineral loss in the SCI is not clear. The purpose of this study is to examine the mechanism by comparing the BMD of the paraplegia (Para) and the quadriplegia (Quad).

Methods: Twenty men with spinal cord injury (SCI) participated in this study and the subjects consisted of 10 with Quad and 10 with Para. The BMD of the lumbar spine (L2-4), proximal femur (femoral neck, trochanter region and Ward's triangle) and the whole body were measured by dual-energy x-ray absorptiometry (DEXA). Measurements for the BMD of the head, arms, legs, trunk, ribs, pelvis and spine were obtained by a whole body scan.

Results: There were significant differences between the Para and the Quad in both age and post traumatic period. Analyzed by Student's t-test, the BMD of the lumbar spine, arm and trochanter region was significantly higher in the Para than in the Quad. However, no significant difference ($p < 0.05$) was found for the femoral neck, the Ward's triangle, head, pelvis, leg and whole body BMD.

Conclusion: These results suggest that injury level has influence on the maintenance of the lumbar spine, arm and trochanter region BMD. From a biomechanical standpoint, it appears that compressive stress exerted on bone is also effective in maintaining the lumbar spine BMD.

28PM P8–7 Association between sleeping patterns and personality dimensions in elderly persons

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Purpose: This is a cross-sectional study, which was conducted, in a city adjacent to Nagoya, Japan, in June 1996, to examine possible associations between sleeping patterns and personality dimensions among 124 men and 129 women aged 65 years.

Methods: The NEO Five-Factor Inventory (NEO-FFI) was used to measure five personality dimension: Neuroticism (N), Extravertion (E), Openness (O), Agreeableness (A) and Conscientiousness (C). The study subjects were administered NEO-FFI and a questionnaire on lifestyles including sleeping patterns. Each personality dimension was scored and examined by sleeping pattern.

Results: Good mood at awakening was significantly associated with Extravertion (E) and Conscientiousness (C) in both sexes, whereas bad mood with Neuroticism (N). Difficulty in getting to sleep was significantly associated negatively with Extravertion (E), Agreeableness (A) and Conscientiousness (C) in men. Number of nocturnal wakings was significantly associated positively with Neuroticism (N) and negatively with other dimensions in men. In women, the more the number of nocturnal wakings, the lower the Extravertion (E). Sleep duration was not linked to any personality dimensions.

Conclusion: These findings suggest that sleeping quality might be more highly associated with personality dimensions, as compared to sleeping duration, in the elderly.

28PM P8–8 The relationship between superstition and a patient's decision on hospital discharge in Japan

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Objectives: We investigated whether Taian(a lucky day) and Butsumetsu(an unlucky day), a commonplace superstition in Japan, influence a patient's decision to be discharged from hospital. We also considered what effect this superstition has on the amount patients spend on medical care.

Design: Retrospective and descriptive study

Setting: Tertiary university hospital in Kyoto, Japan

Subjects: Patients who were discharged from Kyoto university hospital between April 1,1992 and March 31,1995. Discharges due to death were excluded.

Methods: The mean number of discharged patients every six-days (Taian, Butsumetsu and etc) was calculated and compared. The difference between sexes was examined. The effect of the difference in discharged patient's number in certain days was translated to the extra cost of medical care.

Results: The mean number of discharged patients on Taian is significantly more than those on other days, and that on Butsumetsu significantly less. We estimated that the effect on medical care cost is not negligible.

Conclusion: This study showed that the superstition influenced a patient's decision to be discharged from hospital in Japan and increased the cost of medical care in parallel. To reduce the cost of medical care is so important that the length of stay should be shortened as far as possible. However, some patients may feel uneasy because of the superstition causing a deterioration of their condition. Consequently, we must consider the psychological impact on health in such superstitious patients.

28PM P8–9 A COMPARATIVE STUDY ON MORTALITY AND MORBIDITY PATTERNS AMONG KOREANS, KOREAN IMMIGRANTS AND CHINESES IN CHINA.

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Purpose : This comparative study of disease pattern in three different groups was carried out to find out and to describe differences in disease prevalences that may lead to identification of responsible risk factors associated with ethnicity and environments by comparing causes of death and prevalences of certain diseases, which are identifiable by means of interview along with some clinicopathologic tests.

Method : ① Mortality rate and cause of death:death certificates, medical records, burrial records, and crementation records of Yenji City 1993 were collected, cross-examined and verified for both Korean immigrants and Chinese, citizens of Yenji City. Age-adjusted death rate and cause specific death rates are compared with that of Koreans for the same year. ② Morbidity rate and prevalence rate of certain diseases: Interview survey for all ages and some clinicopathologic tests(FBS, Ht. serum lipids, EKG, BP. and etc.) for adult population of two rural villages in Yenji City(772 males, 888 females), ten rural villages in Korea(728 males, 758 females), and Only interview on 1700 Chinese in five rural villages.

Results: The mortality rate and cause of deaths as well as morbidity rate and disease prevalence are diffent in these three groups.

conclusion : The mortality and morbidity patterns are quite different each another. Responsible factors associated with the difference are analysed.

28PM P8–10 EFFECTS OF ILL HEALTH ON INCOME-EARNING CAPACITY AMONG URBAN POOR IN BANGLADESH

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Purpose: to investigate the influence of incapacitating ill-health in urban poor households.

Methods: A survey on health care utilization was conducted between June and November 1993 in a sample of 905 households (4,310 individuals). This sample was selected by a two-stage sampling from a 1991 database of the slum population of Dhaka-City. Two simultaneous household surveillances collected data on selected socioeconomic variables every month; self reported morbidity and health care use patterns every fortnight. Data presented here are from the socioeconomic surveillance, where respondents were mainly spouses of the household heads.

Results: One fifth of the households experienced loss of income at anytime, of which one third was due to illness. The later were higher (50-55%) during the survey months, exclusive climatic situations, such as floods, or important religious festivities. The households experiencing illness-related incapacitation, the estimated value of income forgone far exceeded the estimated health care costs (33% and 4% respectively of all income earned). When the income-earners were considered, daily wagers reported far more income-earning disability (26%) than weekly (5%) and monthly wagers (2%).

Conclusion: Health care programmes should be redirected from classical mother and child health programmes to cover all household members, particularly income-earners. Cost-sharing schemes and credit programmes for alternative income generation should be encouraged to decrease the burden of illness on household income, particularly in those households dependant upon the earning of daily wagers.

28PM P8–11 A PILOT STUDY OF SEXUAL BEHAVIOR AMONG THE GENERAL POPULATION IN JAPAN

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Purpose: We conducted a pilot study to identify the best way to increase the response rate of survey on sexual behavior.

Method: The investigation was conducted on a sample of randomly selected 600 subjects from resident registration, who were age 20 to 49 years of age from two geographically different areas in Japan - one certain rural area (pop.1,9000) and a certain metropolitan area (pop.14,000). Anonymous, self-administered questionnaires were sent by mail. A post-card was enclosed with the questionnaire in order to identify who replied. The study was conducted between January 4 and March 10, 1997.

Result: 380 (63.3%) sent back the questionnaires. Yet, valued response rate was 60.0% - excluding no answers and no sexual identification on the questionnaires. Male metropolitan residents were lowest response rate (46.7%) among the sample groups.

Conclusion: Even the bigger sample number, the respondence rate was 60%. We will use this way for the future National sexual survey in Japan.

28PM P8–12 JAPAN-CHINA COOPERATIVE STUDY ON EPIDEMIOLOGY OF KAWASAKI DISEASE -PLANNING AND FEASIBILITY OF HOSPITAL SURVEYS-

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Purpose: To discuss feasibility of cooperative study on epidemiology of Kawasaki disease between Japan and China, especially on hospital survey that has been implemented in Japan.

Methods: In the Japanese nationwide surveys, a survey form and diagnostic criteria of Kawasaki disease were sent to all hospital pediatric departments with 100 or more beds throughout Japan. The patients to be reported were all the incident cases who satisfied the diagnostic criteria. We try to plan a comparative survey that can be applied to hospitals in China.

Results: The problems to be solved to obtain comparable epidemiological data are outlined as follows:

1. Translation of diagnostic criteria and survey form
2. Selection of study facilities
3. Selection of study subjects
4. Organization of research committee
5. Data processing system

Conclusion: In order to implement international cooperative epidemiological studies, discussions on the above topics with close communication between both countries are essential.

28PM P8–13 A PREVALENCE SURVEY ON NASAL ALLERGY IN THE STUDENTS IN JIANGSU PROVINCE OF CHINA

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PUROPOSE: The prevalence of nasal allergy in China was investigated in comparision with that in Japan, so as to discuss the reasons of increasing and the epidemiologic law of it.
METHODS: The subjects were the 1st and the 4th grader of elementary school, the 1st grader of junior and senior high school in Lili Town, Wujiang City, freshmen and seniors of Nanjing Medical University in Jiangsu Province of China, which amounted to 1833 students, aged from 6 to 24 years. Screening questionaires on nasal symptoms were distributed to these subjects, answered by their parents or themselves. Each subject was examined by nasalscope to detect the signs of nasal allergy, and was skin-tested with the following allergen extracts: house dust, mites (D. farinae) and cedar (C. japonica) pollen by scratching.
RESULTS: The positive rate of house dust, mites and cedar pollen were 21.2%, 27.6% and 2.2% respectively. The positive rate of at least one kind of allergen was 32.6%, which had an increasing tendency with age. 24 students were confirmed to be nasal allergy and the prevalence rate was 1.3% according to our diagnostic criteria.
CONCLUSION: The initial survey suggested the prevallence of allergen reactivity and nasal allergy in China was obviously lower than that in Japan. We think that with the developement of society and economy the nasal allergy in China would increase and it is necessary to go on a long-term research and longitudinal observation.

28PM P8–14 DETERMINANTS OF CONTRACEPTIVE USE IN AN INDIAN COMMUNITY CONSIDERING HIERARCHIAL STRUCTURE OF DATA

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Purpose: Commonly used classical statistical procedures for multivariate analysis of data having hierarchical structure provide distorted interpretation. This paper carries out more appropriate analysis of community based data giving accurate and more useful results.

Methods: India's 1992-93 National Family Health Survey (NFHS) collected detailed information on contraceptive use among 11,040 currently married women of reproductive age in most populous Indian state Uttar Pradesh. Using recently developed multilevel modeling techniques, this paper examines the relative importance of a woman's individual characteristics and those of the area in which she lives as predictors of contraceptive use.

Results: The effect of the characteristics of area is also important. The results offer some insights into the way that the characteristics of an area influence individual behaviours regarding contraceptive use.

Conclusion: This analysis provides important clues to policy makers regarding the preference between individual and area level welfare programs.

28PM SI–1 USE OF BIOMARKERS IN CANCER RISK ASSESSMENT -A REVIEW OF *p53* AND HEPATOCARCINOGENESIS

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Purpose: Major advances in molecular biology during recent years have helped to identify useful biomarkers that could play an important role in disclosing the etiology of diseases and their prevention. This paper gives an up to date review of *p53*, a genetic biomarker, on the study of a common cancer, hepatocellular carcinoma (HCC).

Results: The incidence of HCC varies considerably among different geographical regions in the world. It is relatively uncommon in Europe and America, but rather prevalent in China, Africa and South East Asia. Recent molecular epidemiological studies have suggested that aflatoxin B1 (AFB1) causes characteristic mutational changes in the *p53* tumor supressor gene of HCCs. Based on more than 1500 HCC samples that have been examined suggest that more than 55% of the cases from Qidong, China and Southern Africa were detected with changes of the *p53*. In contrast, these changes only reported in about 20-25% of cases from Japan, Europe and other parts of China. Further analysis showed that over 50% of the *p53* mutation in high AFB1 exposure areas were found to have a codon 249 G to T transversion. This mutation pattern, however, is rarely found in HCCs from low AFB1 exposure areas. This hot-spot mutation reflects a molecular fingerprint linking the initial event of AFB1-DNA adduct formation with the ultimate development of human HCCs.

Conclusion: The above findings suggest a close association between AFB1, *p53* mutational pattern and HCCs. Nevertheless, it should be cautioned that for most of these studies the AFB1 exposure levels were arbitrarily classified without quantitative evidence. The significantly high proportion of HCC cases with unaffected p53 gene suggests that other etiological factors could have been contributed to the hepatocarcinogenesis.

28PM SI–2 EPIDEMIOLOGY AND PREVENTION OF CANCER

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Cancer is a very frequent disease particularly in developed countries with a high mortality rate in spite of constant improvements in diagnosis and treatment, leading to an increasing awareness on prevention.

At present, main cancer in the world is probably lung cancer, mostly related to cigarette smoking, a very extended addition. Gastric cancer that used to be the main cancer is now second for a constant decreasing due to a better nutrition and food preservation. It is still the first cancer in many developing countries because of a positive association with poverty and inequity. Cervical cancer, a peculiar sexually transmitted disease also associated to poverty and poor control programs is still a very important neoplasia in many regions. Other cancers are depending on population or geographical conditions such as from liver or mouth in Asia or Oceania. Gallbladder cancer, a rare neoplasia in most countries, is in Chile the first female oncologic cause of death and fourth in men, with the first place by far in the world. In practice, every country trends to have its own pattern of oncologic diseases.

Prevention in cancer may be established at different levels. Primary prevention has to deal mostly with environmental factors such as cigarette smoking, inadequate sexual behavior and exposure to HPV, unhealthy nutrition, extended asymptomatic gallbladder disease, stress, etc. Secondary prevention, a main aim of many control programs, is based in high technology and good physicians' training directed to get an early diagnosis and a comprehensive treatment of precancerous and early lesions. Tertiary prevention is directed to a complete recovery after oncologic treatments.

In general terms, nutritional interventions are considered a more practical and effective mean of controlling cancer than discarding undesirable habits or addictions. Early diagnosis through mass screening programs are limited to forms or sites with a high prevalence, have to be applied through an accepted and inexpensive examination and last but not least, be followed by an available and effective treatment. Tertiary prevention is a superior stage of development, dependable on both economic and human resources. Cancer remains as a great challenge for being still largely unknown, besides a complex and multicausal disease or diseases that develop early lesions after long periods of time but then progressing very shortly to advanced lesions, with poor prognosis and difficult to cure. In this condition, they mean a lot of suffering and costly treatments.

28PM SI–3 CULTURAL-BASED CANCER PREVALENCE AND ITS POSSIBLE SPECIFIC PREVENTION PROGRAM IN INDONESIA

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Purpose: To optimize its effectiveness, the strategy of cancer prevention should be based on local culture. We reanalyze existing secondary data to identify cultural-based strategy in three main ethnic regions in Indonesia.
Methods: Reviews of three related secondary data: Pathology-based Cancer Registry, dietary survey, and socio-anthropological study. A total of 19,898 newly diagnosed cancer cases in 13 centers have been recorded in the Pathology-based Cancer Registry in 1990. The ten leading malignancies from each ethnic region was correlated with results of dietary survey and anthropological study.
Results: The three main ethnic regions in Indonesia show distinct lists of ten leading malignancies, which are correlated with local community's dietary pattern and culture. Sumatera region with high fatty food and less vegetable diets, and more mobile culture shows high proportion of breast, skin and cervical cancers. The Sulawesi region with moderate fatty food diet and more stressful culture shows high proportion on breast, cervical and skin cancers. The Javanese region with less fatty food and high vegetable diet, and less stressful culture shows high proportion of cervical, and breast cancers. The Jakarta city is ethnically considered as a mix region, and it shows high proportion on cervical and breast cancers. The consumption of specific food items among each regions might have causal relationship with the different proportion of malignancies.
Conclusion: Dietary pattern and local culture correlate strongly with the risk of certain types of cancer. The strategy of cancer prevention in Indonesia must be developed for each region considering the difference of dietary pattern and culture.

28PM SI–4 CANCER EPIDEMIOLOGY IN CHINA

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Purpose:To explain cancer patern changing, main risk factors, and prevention in China.
Methods: Descriptive epidemiology used to explain the situation of cancers. Meta-analysis used to pool the case-control and cohort studies. The prevention was conducted and put on first.
Results: The adjusted mortalities of Cancers per 100 000 during 1973-1975 and 1990-1992 were 103.14 and 123.57 for males and 67.27 and 66.30 for females. During 1973-1975 the first three cancers were stomach, esophageal, and liver cancer (61% for overall cancers, cervical cancer ranked third in females). During 1990-1992 the first three cancers were stomach, liver and lung cancer (58% for overall). The cervical and esophageal cancer were decreasing 38% and 48% respectively. Main causes for increasing were unhealthy lifestyles (included smoking, drinking, and dietary habits), fast urbanization and pollution (using coal). The survey in 1990 showed that the prevalence rates for smoking were 66.94% for males and 4.19% for females. According to meta-analysis, the ORs(Odds Ratio) for squamouse cell carcinoma were OR_{male} =4.79, 95% CI 4.02-5.70, PAR (population attributable risk)=65.44% and OR_{female} = 7.45 95%CI 5.21-10.67, PAR=53.97%. Viruses and biological agents are important. Since the pooling OR_{HBsAg} =12.61, 95%CI 10.11-15.74, PAR=63.91%, and $OR_{AntiHCV}$=5.49, 95%CI 2.85-10.60, PAR=8.61% they were related with primary liver cancer and showed synthesis effect. The human papilloma virus 16/18 types were associated with cervical cancer, OR=7.72, 95%CI 2.85-10.60, PAR=39.70%. Helicobacter pylori reported that this bacteria related with stomach cancer. However, in one nested case-control study HP prevalence rates were 54%, 56% in cases and controls (OR=0.93, 95%CI 0.55-1.55, PAR=4.2%).The antibody titers of EBV/VCA related with nasopharengeal carcinoma. Some special food associated with digest system cancers, such as pickles for esophageal cancer, saturated fat for breast cancer, corn and drinking water for liver cancer.
Prevention & conclusion:The trends of cancers showed that digestive system cancers were decreasing. The liver cancer is decreasing in cities for the measures of control of water, changing crops and vaccination of HBV. The intake of β-carotene, vitamin E and selenium can decreasing 13% overall cancer and 21% stomach cancer. Soybean, green tea, garlic products showed some effect for cancer prevention. Cervical screening is effect for cervical cancer control.

28PM SI-5 ISSUE ON PREVENTION STRATEGY AGAINST MOTHER-TO-CHILD TRANSMISSION OF HTLV-I IN THE WORLD

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Background of epidemics: Human T-cell leukemia virus type I (HTLV-I) is the main cause of adult T-cell leukemia(ATL). A vertical transmission from mother-to-child mainly through breast milk might be strongly associated with future manifestation of ATL, therefore, a preventive measure against vertical transmission of HTLV-I would be very important for public health.
Practical prevention strategy: To establish a desirable measure against vertical transmission of HTLV-I, several prospective studies in highly endemic areas where 5-15% of pregnant women carried HTLV-I have been conducted since 1985. Fundamentally, pregnant women found to be positive against anti-HTLV-I antibody are recommended not to breast-feed their newborn babies and they received bromocriptine mesilate immediately after delivery to stop secretion of breast milk and the other mothers proceeded to breast-fed. The results obtained from 3-year-old children whose anti-HTLV-I antibodies had been confirmed showed that around 2-4% became antibody positives. On the other hand, 10-20% of breast-fed children became positives. Among them only 3-8% of children breast-fed for less than 6 months were infected with HTLV-I. The results obtained from those cohort studies showed breast-fed term-related increment on transmission risk of HTLV-I in babies from mother with HTLV-I.
Issue on Implementation: A complete stop to her breast-feeding is most effective prevention strategy, however, maternal antibody through breast milk during the first 5 months protect babies from not only HTLV-I but also other infectious agents which may generate a fatal condition for newborn babies, just as a dilemma of general public health. A short-term breast-fed which still remains a little risk of maternal infection of HTLV-I would be recommendable instead of bottle-fed, especially under the poor nutritional status for newborn babies in the developing countries.

28PM SI-6 ARE ETIOLOGIC FACTORS COMMON BETWEEN INTESTINAL AND DIFFUSE TYPE OF GASTRIC CANCER ?

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Since Lauren classified gastric cancer into two histological types, intestinal and diffuse (Lauren 1965), it was hypothesized that intestinal type and diffuse type have different etiology because of different epidemiological features in sex, age and geographical patterns. It was reported that intestinal type was more common in high risk areas for gastric cancer, in male and in older age groups. On the other hand, diffuse type was more frequent in younger age groups, and the sex ratio was close to one. It was observed that H.pylori infection is closely associated with intestinal gastric cancer, but not with diffuse types. Thus, it was proposed that intestinal type is more dependent on environmental factors, whereas diffuse type is more related to host factors.

Question was raised whether etiologic factors in intestinal type gastric cancer and in diffuse type gastric cancer are common. In the presentation, the epidemiological features of intestinal type and diffuse type of gastric cancer were reviewed in terms of age and sex distribution, time trend, dietary factors, H. pylori and other risk factors.

In summary, 1. Intestinal and diffuse type gastric cancer have different age and sex distribution, and secular trend. 2. No clear differences in dietary factors was found between intestinal type and diffuse type gastric cancer, although, in a few studies, intestinal type was more related to specific dietary factors than diffuse type. 3. Both the intestinal and diffuse types of gastric cancer were associated with H.pylori infection. But strength of association with H.pylori in intestinal and diffuse types was controversial. 4. No differences in genetic polymorphism (CYP2E1, GSTM1, L-myc) was reported between two types of gastric cancer. Blood type A is more frequent in diffuse type than in intestinal type.

29AM C–1 A LONG-TERM FOLLOW-UP STUDY ON RISK FACTORS FOR HEPATOCELLULAR CARCINOMA AMONG PATIENTS WITH LIVER CIRRHOSIS

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Purpose: To identify virological factors (hepatitis B virus vs. hepatitis C virus [HCV] infection, HCV genotypes and serum HCV-RNA titer) and lifestyle factors (drinking and smoking habits) that may influence the development of hepatocellular carcinoma (HCC) among patients with liver cirrhosis (LC).
Methods: Between December 1985 and December 1987, a detailed interview survey as well as a determination of serum hepatitis B surface antigen (HBsAg) status was conducted for 100 LC patients without HCC attending Kyushu University Hospital. These patients were followed until the end of December 1995 (follow-up rate: 98%). Stored sera from 75 patients were utilized for testing antibody to HCV (anti-HCV), HCV genotypes and HCV-RNA titers.
Results: After elimination of 4 patients who developed HCC or were censored within an initial 6 months period, anti-HCV(+) HBsAg(-) patients (n = 52) showed a 5-year cumulative incidence of HCC of 41% compared with 29% in HBsAg(+) patients (n = 15) and 9% in anti-HCV(-) HBsAg(-) patients (n = 12) ($P < 0.05$). Genotype 1 HCV infection was not associated with increased risk compared with genotype 2 HCV infection (rate ratio [RR] = 0.53), whereas high HCV-RNA levels (1 Meq/ml or more) appeared to be related to increased risk (RR = 5.82, P = 0.09). Past history of heavy drinking was not predictive of increased risk (RR = 0.42). Overall, cigarette smoking was not associated with significantly elevated risk, although some risk excess was suspected for anti-HCV(+) patients.
Conclusion: HCV infection appeared to be the most important determinant for the development of HCC in LC regardless of the genotype. The potential positive associations with serum HCV-RNA titers and cigarette smoking among anti-HCV(+) patients require further confirmation.

29AM C–2 *HELICOBACTER PYLORI* INFECTION AND ATROPHIC GASTRITIS:A NESTED CASE-CONTROL STUDY IN A RURAL TOWN IN JAPAN

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Purpose: We conducted a nested case-control study to reveal the relationship between *Helicobacter pylori*(HP) infection and atrophic gastritis.
Methods: One thousand four hundred and forty-six participants of the annual health check-up in 1992 in a rural town in Kyoto prefecture were traced back to determine whether they had participated in the annual health check-up in 1987. Atrophic gastritis was diagnosed by the serum pepsinogen (PG) I level(<=70 ng/ml) and PG I/II ratio(<=3.0). Cases were defined as those with atrophic gastritis in 1992 and without in 1987. Controls were those without atrophic gastritis in both 1992 and 1987. HP infection was determined by the presence of IgG antibodies to HP. The risk of HP infection in 1987 for development of atrophic gastritis in 1992 was analyzed by the method of unconditional logistic regression method.
Results: There were 787 participants whose sera in both 1987 and 1992 were stored at –80°C. Among 464 subjects without atrophic gastritis in 1987, 62 cases with atrophic gastritis and 402 controls were identified in 1992. HP infection significantly increased the risk of atrophic gastritis: Odds ratios(95% confidence limits) for males, females and total were 12.27(1.59-94.58), 2.65(1.17-5.98) and 3.72(1.78-7.79), respectively.
Conclusion: These results suggests that HP infection is associated with atrophic gastritis.

29AM C–3 EPSTEIN-BARR VIRUS SPECIFIC ANTIBODIES IN EBV-POSITIVE AND NEGATIVE GASTRIC CARCINOMA CASES IN JAPAN

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Purpose: Epstein-Barr Virus (EBV) infection in gastric carcinoma cells has been demonstrated by detection of EBV encoded RNA1 (EBER1) with *in situ* hybridization assay. We investigated the relationship between EBV infection and the risk of gastric carcinoma.
Methods: The cases with EBER1 in carcinoma cells were made to be EBV-positive cases. We examined EBV-specific antibodies in sera from 57 EBV-positive cases and 59 EBV-negative cases, and utilized immunofluorescence assays to detect IgG and IgA antibodies to EBV-capsid antigen (VCA) and early antigen DR component (EA), and IgG antibodies to EBV-encoded nuclear antigen (EBNA).
Results: The ORs comparing the positivity of antibodies between EBV-positive and negative cases were 1.8 and 4.1 for VCA-IgA and EA-IgG, respectively. The geometric mean titer (GMT) of VCA-IgG in EBV-positive cases was higher than that of EBV-negative cases ($P < 0.0001$). The GMT of EBNA-IgG in EBV-positive cases was higher than that of EBV-negative cases only in diffused type tumor.
Conclusions: These observations indicated that EBV-positive cases had more strongly reacted to EBV antigens than EBV-negative cases, supporting our hypothesis that EBV is involved in the development of EBV-positive gastric carcinoma.

29AM C–4 ETHNIC DIFFERENCES IN MAMMOGRAPHIC DENSITY PATTERNS

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Purpose: Breast cancer risk differs greatly by ethnicity with higher incidence rates among Caucasian and Native Hawaiian women than among Asian women. Mammographic density patterns, which refer to the distribution of fat, connective, and epithelial tissue in the healthy female breast, have been shown to be related to breast cancer risk. Therefore, the hypothesis was proposed that women from ethnic groups with high breast cancer risk are more likely to have a dense parenchymal pattern than women from ethnic groups at low risk for breast cancer.
Methods: In a cross-sectional design, healthy women from different ethnic backgrounds, who were recruited at mammography screening clinics in Hawaii, completed self-administered questions related to medical, reproductive, and diet history. After scanning the cranio-caudal mammogram films into a PC, computerized mammographic density assessment was performed. This method determines the area of the breast with densities and the total area of the breast. The proportion of the breast with densities was calculated as the ratio of the dense area to the total area of the breast. The measurements for three readers were highly correlated. Student's t-tests were applied to assess differences between groups.
Results: The mean area of the breast was nearly twice as large for women with Caucasian and native Hawaiian ancestry as for women with Asian (Chinese, Filipino, and Japanese) ancestry. The mean dense area was considerably smaller in Asian women than in the Caucasian/Hawaiian group. In comparison to Caucasian/Hawaiian women, the percentage of densities was slightly higher in Asian women. Several reproductive and dietary factors as well as hormone replacement therapy were associated with mammographic density patterns.
Conclusion: These preliminary data suggest that the area of dense tissue in the breast may be smaller in Asian than in Caucasian women. However, because of their relatively smaller breast size, the percent of the breast occupied by dense tissue in Asian women may be equal to or higher than in Caucasian women.

29AM D–1 SERUM FATTY ACIDS AND RISK OF STROKE AMONG JAPANESE

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Background: Few data were available on the relation between serum fatty acids and risk of all stroke and stroke subtypes.

Methods: We conducted a prospective nested case-control study for men and women aged 40 to 79 in three Japanese populations. Serum samples were frozen at -70°C of approximately 9,993 participants between 1984 and 1994 in one population, and between 1989 and 1992 in the other populations, and the participants were followed until the end of 1995. Three controls per case were matched for age (± 2 years), sex, population and the year of serum stored. Fatty acid compositions of total fatty acids were analyzed by gas chromatography using samples of at most 6-year preservation.

Results: The odd ratio (95%CI) for highest vs lowest quartiles of linoleic acid was 0.39 (0.19 to 0.83, P for trend = 0.01) for all stroke (n = 111), 0.28 (0.07 to 1.13, P for trend = 0.02) for hemorrhagic stroke (n = 44) and 0.26 (0.09 to 0.76, P for trend = 0.02) for lacunar infarction after adjusting for serum total cholesterol, triglycerides, ethanol intake, current smoking and diabetes mellitus. Further adjustment for diastolic blood pressure, a potential mediator of linoleic acid in this cohort, attenuated the relation with hemorrhagic stroke, but not with lacunar infarction; the adjusted odd ratio was 0.40 (0.08 to 2.04, P for trend = 0.10) and 0.29 (0.10 to 0.87, P for trend = 0.03), respectively. N-3 fatty acids were not related with risk of all stroke or any subtypes.

Conclusions: This observational study suggests a protective effect of serum linoleic acid on stroke, either hemorrhagic stroke or lacunar infarction.

29AM D–2 ANGIOTENSINOGEN GENOTYPE AND LIFESTYLES RISK FACTORS FOR PREGNANCY-INDUCED HYPERTENSION

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Purpose: To elucidate an interaction between genetic and environmental factors for the manifestation of pregnancy-induced hypertension (PIH).

Methods: 71 Japanese cases and 109 controls were studied. A common variant of angiotensinogen (AGT) gene (M235T), that of angiotensin type 1 receptor (A_1R) gene (A1166C), and the factors including life styles before and during pregnancy were analyzed. The variant of AGT gene and that of A1R gene were analyzed by the use of polymerase chain reaction and hybridization. The lifestyle factors were inquired with a questionnaire, containing 98 questions, sent for the subjects between 1 and 6 month post delivery.

Results: Eleven factors, including "homozygote of T235 (TT) of AGT gene", were significant for PIH ($p<0.05$). Further, by dividing the subjects into two groups whether carrying TT genotype of AGT gene (n=120) or not (n=60), we found that they had respective aquired factors significant ($p<0.05$) in multivariate analysis, "low consumption of milk during pregnancy" and " mentally stressful condition during pregnancy" in the former, and " prepregnancy high body mass (BMI≥24)", "lack of physical exercise during pregnancy" and "salty dish preferred during pregnancy" in the latter.

Conclusion: The present result suggests that genotypes of AGT varied the environmental risk factors, and will give a clue to establish an effective prevention of PIH, by the elimination of manageable risk factors, particularly in the inherited high risk individuals.

29AM D–3 FOLLOW-UP STUDY ON CARDIAC SEQUELAE OF KAWASAKI DISEASE -BASELINE DATA AND FOLLOW-UP PLANNING-

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Purpose: To clarify the factors relating to the occurrence of cardiac sequelae 1 year after the onset of Kawasaki disease.
Methods: Kawasaki Disease Research Committee carried out a nationwide epidemiological survey for the patients with Kawasaki disease whose onset was 1995-96. Patients who were diagnosed in leading hospitals in 1996 were followed up and information on cardiac sequelae after 1 year of onset was obtained by mail survey. The items included in the questionnaire form are findings of two dimensional echocardiography or coronary angiography. In this report, we will describe the base line data of the study patients.
Results: Number of patients followed-up was 2,202. Male/female ratio was 1.34 and 55% of the patients was less than 2 years old. Patients with cardiac sequelae after 1 month of onset were 11%. The types of cardiac sequelae were; giant aneurysm 0.9%, aneurysm 3.0%, dilatation 7.1%, infarction 0.1% and valvular lesion 0.4%.
Conclusion: The epidemiological pictures of the baseline data were consistent to the total patients and the results of the follow up will disclose the prognosis of cardiac sequelae of Kawaski disease patients.

29AM D–4 EPIDEMIOLOGY OF RHEUMATIC FEVER IN BANGLADESH A REVIEW OF THE NUTRIHEART STUDIES

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Rheumatic fever (RF) remains a major public health problem in many developing countries. Bangladesh is one of the least developed countries in the world where the prevalence of RF was found to be 3.9 per 1000 children aged 5 to 15 years. It has long been considered that RF occurs usually between the ages of 5 and 15 years. However, we have found that the occurrence of RF is fairly high in the children above 15 years. This finding is further supported by data from multiethnic samples. It warrants re-evaluation of the prevailing concept of age for occurrence of RF.

A relationship between RF and poverty has long been considered. However, despite the conviction with which this relationship has been put forward, supporting epidemiological data from economically deprived populations have been inadequate. Moreover, one of the most important socioeconomic factors, nutrition, has received little attention. In Bangladesh, among subjects with proven evidence of previous group A beta-hemolytic streptococcal upper respiratory infection, RF was found to be associated with poor living condition such as substandard house, and chronic undernutrition as indicated by low height for age.

The intake of different food items was found to be lower in the RF cases as compared with non-rheumatic control subjects. They also had low levels of serum albumin and body iron store. As the burden of both malnutrition and RF in the developing countries is high, a high risk approach for malnourished children may be considered for primary prevention of RF in the developing countries.

29AM L-5 DIETARY INTAKE AND THE RISK OF STROKE IN JAPAN: THE SHIBATA STUDY

C. Date Osaka City University Medical School, Osaka, Japan

The presentation concerns dietary intakes in relation to the incidence of stroke. First, to assess habitual dietary intake, a semi-quantitative food frequency questionnaire (FFQ) was developed. The validity of the FFQ to discriminate among individuals was asessed by comparison with estimates of individual intakes of 33 men and women, measured by the dietary record method for 84 days a year. Then in July, 1977, habitual dietary intake was assessed with 954 men and 1469 women, aged 40 years and over, who were free from stroke in the A-I district, Shibata City, Niigata Prefecture. The response rate was 84.5% for men and 92.6% for women. From July, 1977 through Dec. 1992, 141 new cases of stroke were identified. Among such cases, 75 were cerebral infarction, 27 cerebral hemorrhage, 11 subarachnoid hemorrhage and 28 undetermined type of stroke. The relative risk or hazard ratio of cerebral infarcton was estimated for each of the four dietary intakes categorized by quartile using the Cox proportional hazard regression model. I will discuss secular trends in nutrient intakes from 1970s through 1990s in A-I district and relationships between dietary intakes and incidence of cerebral infarction, with special focus on dietary lipid.

29AM L-6 Epidemiology and prevention of stroke in Japanese general communities

Takashi Shimamoto, Univeristy of Tsukuba, Ibaraki Japan

Japan had the highest mortality from stroke among developed countries in the 1960s, but have experienced a rapid decline since the 1960s: the age-adjusted mortality declined approximately 70% between the 1960s and the 1990s. High mortality of stroke, in particular intracerebral hemorrhage was attributable to traditional Japanese lifestyles such as high sodium intake, extremely low intake of meat and dairy foods, hard labor, and insufficient house heating in winters. Prospective cohort studies have conducted in several Japanese communities since the 1960s and the 1970s to investigate risk factors for stroke. Hypertension was the most important risk factor for total stroke, either hemorrhage and ischemic stroke. Low serum cholesterol levels were associated with increased risk of intracerebral hemorrhage while serum cholesterol levels were not related with risk of total ischemic stroke. Community-based hypertension control programs were conducted in several communities where epidemiologic studies were done simultaneously. The intervention programs along with socioecnomic improvements have contributed to a decline in incidence of all stroke, either hemorrhagic and ischemic stroke in middle-aged and elderly persons. Effective community programs stimulated the formation of the 1982 national act on health and medical care in which each municipal government is required to conduct health screenings and education for residents aged 40 and over to prevent cardiovascular disease. Increased proportion of elderly stroke patients may lead to increased the number of severely disabled strokes and vascular dementia. Thus, we need to elucidate new risk factors for stroke such as hemostatic factors to make effective strategies for reducing stroke further, and to make effective community network for rehabilitation and care in the elderly.

29AM L-7 EVALUATION OF MASS SCREENING PROGRAMS FOR STOMACH AND COLORECTAL CANCER IN JAPAN

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In Japan, mass screening programs for stomach cancer and for cervical cancer have been carried out in nationwide spread based on the Health and Medical Services Law for the Aged since 1983, breast cancer and lung cancer since 1987 and colorectal cancer since 1992.

The purpose of cancer mass screening should be the early detection and prompt treatment to reduce the cancer mortality in a given population. This is the secondary prevention. For a cancer screening to be successful, (a) the screening test has to be accurate enough to detect the target cancer, (b) it must lead to early detection of the cancer and better prognosis of the patient; and (c) evidence that death rate from cancer is reduced in a population screened, should be obtained from well conducted studies, preferably from a randomized controlled trial which is said the best method, or second best methods, i.e. case-control study, time-series study etc.

In this lecture, the evaluation of mass screening programs fro stomach and colorectal cancer in Japan, which were studied by our colleagues using case-control studies or time series studies, are presented.

From these studies, the positive results (effective or suggest to be effective) for reducing the risk of death from stomach and colorectal cancer were gained.

29AM L-8 EPIDEMIOLOGY, EVIDENCE-BASED MEDICINE, AND EVIDENCE-BASED PUBLIC HEALTH.

Milos Jenicek, Université de Montréal and McGill University, Montreal, Quebec, Canada.

Evidence-Based Medicine (EBM) is heralded as a new paradigm of medicine. Is it? What is its link to epidemiology? Does an evidence-based (EB) approach apply also to other health sciences and to public health in particular? What has epidemiology already achieved in these domains, and what remains to be done? What should our priorities be in the coming years? The EB approach is essential in all health sciences at two levels: for problem solving, and for decision making. It applies to all health sciences, be it medicine, nursing, public health, or others.

Many epidemiological principles, methods and techniques are put into good use in EBM. The EB "movement" is attractive in it's use of clearly defined procedures, generalizing (not always explicitly) the application of good epidemiologic principles, methods, and techniques. Epidemiology must contribute now to the evaluation of the practice of an EB approach.

In public health, the challenges of the EB practice are not equally spread across health protection, different levels of disease prevention, and health promotion. The latter represents the most challenging task for epidemiology at any step of EB approach. Epidemiology, if successful in this domain may help to build an EB health promotion. An Evidence-Based Public Health paradigm may be considered.

Uses of epidemiology in EB health sciences are both essential and exciting. Rules of such uses should be clearly defined. Results of the practice of EB health sciences will otherwise remain beyond our reach.

January 29 PM
JEA Incitement Award Winner's Lecture

EPIDEMIOLOGICAL STUDY ON NEW RISK FACTORS FOR CARDIOVASCULAR DISEASE: SERUM FATTY ACIDS AND PLASMA FIBRINOGEN

Shinichi Sato (Osaka Medical Center for Cancer and Cardiovascular Diseases, Osaka, Japan.)

Purpose : To seek new strategies for prevention of cardiovascular disease (CVD) among Japanese, we conducted epidemiological study on new CVD risk factors.

Results : 1. SERUM FATTY ACIDS. First, among six Japanese populations, fishermen showed highest population mean of serum n3 fatty acids and lowest incidence of coronary heart disease (CHD), althouth they had higher means of blood pressure, serum total cholesterol and higher prevalence of cigarette smokers (Jap J Public Health,1990;37:498-508). Second, a prospective nested case-control study of men in Osaka showed that the proportion of serum n3 fatty acids was inversely associated with risk of CHD (J Epidemiol,1997;7(Suppl):47).

2. PLASMA FIBRINOGEN. First, a cross-sectional study of male employees in two Osaka companies indicated that dietary intake of sea foods was inversely associated with plasma fibrinogen concentrations (Int J Epidemiol,1996;25:521-527). Second, a case-reference study showed that mean plasma fibrinogen was significantly higher in cases of CHD than in references, and that among cases, mean plasma fibrinogen was progressively higher as the number of stenotic vessels (J epidemiol,1996;6:81-86). Third, a three-year prospective study in 11,920 Osaka residents first demonstrated that plasma fibrinogen concentrations were positively associated with risk of CHD among Japanese (Jap J Public Health,1997;44(Suppl):642).

January 29 PM
Keynote Lecture

Diet and Cancer: An Update
Walter C. Willett, Harvard University, Boston, MA USA

In their 1981 review, Doll and Peto estimated that approximately 35% of cancer deaths in the U.S. were potentially avoidable by the modification of diet, but that this percentage might be as low as 10% or as high as 70%. Since that time, the epidemiologic literature on diet and cancer has grown greatly as has understanding of the mechanisms of carcinogenesis. Although this literature has not provided reason to alter the overall Doll and Peto estimate substantially, much insight has been gained about the aspects of diet that are important. For colon cancer, some of the international differences that were attributed to diet are probably due to physical activity, but red meat appears to increase risk and folate to reduce risk. For breast cancer, the concept that fat intake per se is the primary reason for differences in rates among countries has not been supported by prospective studies. Several lines of evidence suggest that caloric restriction, manifested as slow growth rates during childhood and avoidance of weight gain as adults, contributes importantly to the low rates found outside Western countries. Numerous studies suggest that high consumption of animal products increases risk of prostate cancer; this has been attributed to animal fat, but recent studies suggest that higher calcium intake mat explain at least part of this relationship. Whereas earlier thinking about nutrition and cancer emphasized the adverse effects of fat and other components in the diet, compelling evidence from the last decade has indicated the importance of protective factors, largely unidentified, in fruits and vegetables.

29PM P3–6 VALIDITY OF SELF-REPORTED PASSIVE SMOKING EVALUATED BY COMPARISON WITH SMOKERS IN THE SAME HOUSEHOLD.

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Purpose: Validity of self-reported passive smoking among nonsmokers was evaluated by comparing it with answer of questionnaire of smokers in the same household.

Methods: Eight hundred and ninety-four males and 990 females responded to a lifestyle survey for a cohort study. One hundred and thirty-six males and 692 females nonsmokers answered as self-reported passive smoking, and all members of their household aged 20 years or older answered the survey. The relation of the smoker to nonsmoker was checked in the population registry.

Results: Four percent of nonsmokers who reported passive smoking almost every day lived in households without smokers. This value was considered a misclassification of negative passive smoking as positive unless these subjects were visited by smoking guests almost every day. Eight percent of nonsmokers who reported no passive smoking had a spouse who smoked and 18% of these subjects also had other smokers in the same household. The misclassification rate for positive passive smoking as negative was thought to be 8% or higher although it was possible that the smoking spouse smoked only outside the home and that household members may live in different structures at the same site.

Conclusion: The validity was thought to be fair in comparison with similar previous studies in Western countries.

29PM P3–7 BODY MASS DECREASE AFTER THE INITIAL INCREASE FOLLOWING SMOKING CESSATION

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Purpose: It remains uncertain whether initial increase in weight after smoking cessation follows subsequent decrease. We describe body mass among exit smokers in relation to cessation years by group different in previous cigarette consumption.

Method: Using data from periodic health examination of 3,541 male workers aged 30–65, means of body mass index (BMI) were calculated according to the smoking status, number of cigarettes smoked and quitting years. Spearman rank correlation coefficients were calculated between BMI and cessation years according to the amount of cigarettes smoked, habitual sport activity and alcohol intake.

Results: Exit smokers who smoked 25 cigs or more before had a larger BMI than nonsmokers during 2 to 4 years after quitting smoking, but after the period showed the almost same level of BMI as nonsmokers. Those consumed less than 25 cigs weighed much the same as nonsmokers during any period after the cessation. BMI was negatively correlated with years of cessation among exit smokers who consumed larger amount of cigs before (among those consumed 35 cigs or more, $r=-0.257$; $p<0.05$) and, among those consumed 25 cigs or more, stronger correlation was found in those who did not engaged in habitual sport activity ($r=-0.236$; $p<0.01$) or took much alcohol beverage ($r=-0.381$; $p<0.05$) than in the others.

Conclusion: Although heavy smokers experience large increase in weight during few years after smoking cessation, they thereafter decrease weight to nonsmoker level. Light and moderate smokers increase weight up to nonsmoker level without any excess.

29PM P3–8 TOBACCO ADVERTISING: AN ANALYSIS OF CAMBODIA

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Objectives. This study was conducted to try and measure the effect recent legislation has had on advertising - particularly tobacco-related advertising - and to better understand the advertising strategies being employed by the tobacco industry.

Methods. In cooperation with the Cambodian Ministry of Health and the Adventist Development and Relief Agency (ADRA)/Cambodia, street surveys were conducted of advertising signs on the exterior of buildings in the capital, Phnom Penh, in October 1994 and May 1997. For the surveys, teams were formed of one or two people. Main streets throughout the city were selected. The teams then walked along a section of their designated streets tallying all the advertising signs they saw. In a separate component of the study, the various creative advertising strategies of tobacco companies were looked at.

Results and Discussion. For the October 1994 survey, of the 8495 signs recorded, 48.5% of all signs advertised tobacco products; 30.6% advertised alcohol; 9% advertised non-alcoholic (soft) drinks; 6.1% were for product advertising; and 5.7% advertised the name of a business. For the May 1997 survey, 46% of all signs advertised tobacco products; 38% advertised alcohol; 7% advertised non-alcoholic (soft) drinks; 3% were for product advertising; and 6% were advertising of a business. Signs on buildings, though, are only one aspect of tobacco advertising. Other advertising strategies include using large umbrellas, attractive young girls, entertainment facilities, kiosks and other vendors, social customs, lotteries, and the like.

Conclusion. According to the above surveys, recent legislation has not had much impact on tobacco advertising. In fact, the extensive tobacco advertising along with various marketing strategies have permitted foreign brands that are sold at much higher prices to dominate the market. The cigarette has effectively come to symbolize sophistication, power, and prestige.

29PM P3–9 SHOULD ELDERLY SMOKERS STOP SMOKING? —OBSERVATIONS ON THE CHARACTERISTICS OF ELDERLY SMOKERS AND NON-SMOKERS

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Purpose: In our longitudinal study of Japanese elderly, mortality was highest in cig. quitters. Continued smokers had same rate as non-smokers. The reasons for these aberrance were investigated. Methods: Based on smoking status at the entry and 3 years later, non-smokers, quitters and smokers were separated and divided in survivors, early death and later death. Subjective health, ADL, diseases and social indicators were compared between them. Results: Subj. health and ADL were highest in surviving smokers, lower in subsequently deceased quitters. Frequently associated disease which reduced ADL and raised mortality was stroke. Heart disease was less in younger smokers, but same in the old ones. Diabetes without much variance. No stroke was seen in smokers, possibly due to a negative selection. A larger proportion of smokers were working. Physical activity was higher in quitters with moderate degree of exercise. Smokers were rather sedentary. Quitters had 2 fractions: one is those with a disease and quitted; the other stopped smoking for health benefit. Conclusion: We found no definite evidence on the increased risk of smoking in this cohort, compared to general risk of aging. They need not be pushed to quit their long-term habit, except paying attention to negative influence upon young family members. Benefit of quitting smoking was limited in the elderly and prevalence of smokers decreased spontaneously with age without any intervention.

29PM P3–10 DOES EXISTENCE OF DISEASE CAUSE A CHANGE OF DRINKING AND SMOKING HABITS? - A STUDY OF STOCKBROKERAGE WORKERS-

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Purpose:To clarify how disease occurrence relates to a change of lifestyle, particulary drinking and smoking habits in stockbrokerage workers.
Methods:As a part of cancer prevention study, health examinations were performed in 1988 and in 1993. Among those who had both examinations, 2,907 male workers aged 40-59 in 1988 comprised a study sample. Data on medical history, drinking and smoking habits were collected by health questionnaire. The existence of currently treated diseases were examined in relation to changes in drinking and smoking habits between 1988 and 1993.
Results:During the observed 5 years, there was a slight decrease in the rate of 'currently drink/smoke', while increase in the 'quit drinking/smoking, and constant in the 'never drink/smoke' in both aged 40-49 and 50-59. Those who had currently treated diseases accounted for 15% in aged 40-49 and 32% in 50-59. The relationship between an existence of currently treated diseases and a change of drinking and smoking habits was statistically uniform in aged 40-49, but not in 50-59; i.e., those who had changed from the 'currently smoke/drink' to 'quit smoking/drinking' accounted for greater percent of existence of currently treated diseases than other habitual groups.
Conclusion:It is likely that the existence of currently treated diseases would cause changing drinking and smoking habits in the older age group, while other lifestyle factors including food consumption, health practices and working situations should be considered.

29PM P4–10 EVALUATION OF 24-HOUR DIETARY RECALL DATA IN INTERMAP STUDY OF SHIGA, JAPAN, USING URINARY ELECTROLYTE EXCRETION

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INTERMAP is a 4-country study(US, U.K., China, Japan) on dietary variables and blood pressure of individuals. Since it is essential to get highly accurate dietary habit data, four 24-hour recalls were done on each participant. We compared dietary sodium(Na) and potassium(K) intake estimated from recalls with their urinary excretion from the INTERMAP survey of Aito-town, Shiga.
METHOD Residents in Aito-town(men and women, age;40-59) enroled. They visited clinic four times(two pairs of visits) and dietary interview and blood pressure measurement were done each time. Both first pair of visits(1st and 2nd) and repeat pair of visits(3rd and 4th) were scheduled as two consecutive days. Repeat pair of visits were scheduled 2-3 weeks after first pair of visits. Two urine collections were done during both first and reprat pair of visits. Dietary interviewers who were trained and certified before the start of field survey conducted the dietary surveys. We analyzed data of participants(n=288) whose four 24-hour recall data and two urinary electrolyte excretion data were available. All measurements were done by local control.
RESULT Dietary intake and urinary electrolyte excretion are shown in the table. Correlation coefficient between estimated Na intake and urinary Na excretion (mean of two urine collections) was 0.40($p<0.001$). For K, the value was 0.54 ($p<0.001$). Mean of estimated Na intake was very close to mean of urinary excretion.
CONCLUSION This result may indicate that this dietary recall method was precise in individual estimation of Na and K intake.

Table. Dietary intake and urinary excretion(mean±SD

	Men(n=139)	Women(n=149)
Dietary intake (mean of four recalls)		
Energy(kcal)	2414 ± 536	1915 ± 368
Na(mmol)	220.9 ± 63.9	194.2 ± 52.8
K(mmol)	73.0 ± 20.8	72.2 ± 18.9
Urinary excretion (mean of two urine collections)		
Na(mmol)	216.0 ± 57.9	202.4 ± 52.6
K(mmol)	52.2 ± 13.8	55.6 ± 16.9

29PM P4–11 DIETARY PROTEIN INTAKE AND URINARY EXCRETION OF CALCIUM : A CROSS – SECTIONAL STUDY IN A JAPANESE POPULATION

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Purpose : To evaluate whether habitual excess protein intake is a significant risk factor in calcium loss, we studied the relationship between urinary excretion of calcium and protein intake in 349 male and 406 female Japanese aged 20-79 y.
Subjects : The subjects were apparently healthy, free-living, and consuming diets of their own choosing. We divided the subjects into two groups: 20-49-y olds and 50-79-y olds.
Results : In each group, we observed a significant positive correlation between daily urinary excretion of calcium and protein intake. Calcium excretion also correlated positively with daily urinary excretion of urea. Multivariate analyses revealed that in each group the relationship between calcium excretion and urea excretion remained significant even after sex, age, body weight, urinary sodium excretion and calcium intake were adjusted. We observed a significant positive correlation between daily calcium excretion and daily urinary excretion of sulfate. The correlation in 50-79-y olds remained significant even after sex, age, body weight, sodium excretion and calcium intake were adjusted.
Conclusion : Our findings suggest that excess protein, especially that rich in sulfur-containing amino acids, in habitual diets may augment calcium excretion in the urine, at least in the elderly.

29PM P4–12 HEALTH AND LIFESTYLE IN PRACTITIONERS OF JAPANESETEA CEREMONY

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Purpose: To evaluate health status and lifestyle in practitioners of Japanese tea ceremony.
Methods: The subjects were 1118 practitioners of Japanese tea ceremony living in Kyoto between 50 and 79 year old and their friends matched by age(±5 yr.) and sex as controls. A self-administered questionnaire was mailed to the subjects The questionnaire consisted of 139 questions concerning medical history, lifestyle, diet, and beverage drinking habits.
Results: The responder were 767(68.7%) practitioners and 337(30.1%) controls, average ages of 65.8 and 62.2, respectively. Forty-four percent of the practitioners and 7% of the controls drank maccha(powered Japanese green tea) daily. There were no demographic differences between practitioners and controls. Subjective health perception was better among the practitioners than controls. Past history of cancer(4.4%:1.8%) and present history of anemia(2.7%:0.3%) were significantly higher in the practitioners than controls.
Conclusion: The present study did not indicate a protective effect of tea against cancer in practitioners with a higher frequency of maccha consumption than controls. However, their mental health status appeared to be better than that of controls.

29PM P4–13 DESIGNING THE OKINAWA FOOD FREQUENCY QUESTIONNAIRE

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Objective: Construction of a food frequency questionnaire that takes into account the regional specificities of the Okinawan diet is extremely important. The purpose of this research is finally to employ the newly developed research instrument in a nutritional epidemiological investigation of the factors responsible for Okinawan longevity.
Method: The dietary survey was conducted among 140 persons in their 30's - 50's consisting of the participant and their spouse from the two towns in Kume Island. The subjects individually weighed and recorded their total food intake for seven consecutive days. The dieticians then checked the records at each participant's home during the survey.
Results and Discussion: In order to design the food list for the questionnaire a total of 830 different kinds of foods were recorded from the participants' seven day dietary record. Fifty-two nutritional elements including fatty acids, cholesterol, vitamin E and amino acids were isolated from the Standard Food Composition Tables. In order to select the foods for the food list total nutrient intake was made the dependent variable, a stepwise multiple regression analysis was then conducted for each nutrient (the dependent variable), when cumulative R^2 reached 80% a food was selected. After considerations of similarity and originality of Okinawan foods and dishes were taken into account 130 items were eventually selected. We suggest that future research should be undertaken for purposes of validation of the Okinawa Food Frequency Questionnaire.

29PM P4–14 ASSESSMENTS OF FOOD FREQUENCY QUESTUIONNAIRES IN MIDDLE AND OLD PEOPLE

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Purpose: To clarify problems in food-frequency questionnaires (FFQ) in the elderly, nutrition intake was examined in middle-aged and old subjects.
Methods: The subjects were 105 men and women aged 36 to 90. Their daily dietary intake was assessed by FFQ. Average frequency and quantity for 171 foods and dishes in the previous year were estimated. Food intake was also determined by 3-day dietary records (DR). Nutrition intakes by FFQ and DR were compared between two age groups, 36 to 69 y.o. and 70 to 90 y.o..
Result: (1) In the group aged under 70, protein, vitamin A, vitamin C, vitamin E and cholesterol estimated by FFQ were higher than those by DR, and potassium intake estimated by FFQ was lower than that by DR. However, other 8 nutrient intakes by FFQ were not different from those by DR. (2) Correlation coefficients of nutrient intake between FFQ and DR were higher than 0.3 except for carbohydrate, potassium and vitamin A (r: 0.06-0.60) in the group aged under 70. The correlation coefficients in the group aged over 70 were generally lower than those in the group aged under 70 (r: 0.19-0.39). Especially the correlation coefficients of fat, carbohydrate, iron, sodium, vitamin B1, cholesterol were less than 0.3 in the group aged over 70.
Conclusion: Although most nutrient intakes by FFQ were slightly higher than those by DR in the group aged under 70, FFQ was generally useful. However, for the study in the population including subjects aged over 70, a new FFQ should be developed.

29PM P5–5 Health effects of Sakurajima volcano activities on children

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Purpose: This study was conducted to examine the health effects of Sakurajima volcano activities on children.
Methods: We conducted a questionnaire survey of children living in heavy ash-fall and control areas during the period between 1993-95.
Results: Asthma-like symptoms and allergic rhinitis were more prevalent in the children living in heavy ash-fall areas than in control areas. The prevalence of asthma-like symptoms was related to SPM and SO_2 concentrations while the prevalence of allergic rhinitis was related to the amount of ash fall and SO_2 concentration.
Conclusion: Further studies are necessary to evaluate the health effects of volcanic activities.

29PM P5–6 AN ANALYSIS OF THE SUBJECTIVE COMPLAINTS IN A POPULATION LIVING IN THE METHYLMERCURY POLLUTED AREA

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We conducted an analysis of subjective complaints in a population living in the methylmercury pollutted area located near Minamato city.

Subjects in the polluted area have more various complaints than those in non-polluted areas. Factor analysis documents that subjective complaints are composed of four factors: non-specific factor, sensory factor, articular factor, and muscular factor. And subjects those who have many complaints are classified into three types: sensory dominant type, articular dominant type, and muscular dominant type by using cluster analysis. Four factor scores of population in the polluted area are higher than those in other areas and three type clusters are almost occupied by population in the pulluted area. However, an intake of fishes and shellfishes is a little relative with only non-specific factor for females.

On the results, we must pay attention to interpret the meaning of subjective complaints, which are very complex on account of not only methylmercury exposure but other various causes.

29PM P5–7 EPIDEMIOLOGICAL STUDY ON EARTHQUAKE DEATHS DUE TO GREAT HANSHIN-AWAJI EARTHQUAKE

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Purpose: To find factors of earthquake deaths during the Great Hanshin-Awaji Earthquake.
Methods: Descriptive epidemiological methods were used for detecting the impact of age and the grade of damage of house on the earthquake deaths. Additionally, a case-control study was conducted to reveal relating factors other than age and the grade of damage of house. 1,114 cases and 1,114 controls were subjected to analysis using data before the earthquake. The study area was Nishinomiya city, one of neighboring cities to Kobe with a population of about 400,000.
Results: The age-specific mortality was increased with age without gender difference. The mortality among people who lived in the complete destroyed houses was much higher than that among people who lived in partially destroyed or non destroyed houses.

In the case-control study, physical disability was a risk factor for the earthquake deaths (odds ratio [OR] = 1.86, 95% confidence interval [CI]: 1.03-3.37). Elderly who was living alone was a possible risk factor (OR = 0.63, CI: 0.40-1.01). When the analysis was limited to people who lived in partially destroyed or non destroyed houses, the odds ratio of physical disability elevated to 5.64 (CI: 1.61-19.78).
Conclusions: Most important risk factor of earthquake deaths was the grade of damage of house, whereas second one was age. Physical disability was also a risk factor, especially among people who lived in the partially destroyed or non destroyed houses.

29PM P5–8 Increased risk of cerebrovascular stroke after the great Hanshin-Awaji earthquake

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Purpose: We have no epidemiological information on the long-term influence of earthquake on cerebrovascular stroke morbidity. We evaluated the increase in cerebrovascular stroke's risk in relation to destruction of houses due to the great Hanshin-Awaji earthquake (1995).
Methods: A retrospective cohort study was conducted among approximately 8,800 persons aged 40 years old or more, who lived in two towns in Awaji-island and were joining national health insurance (NHI). Reviewing the NHI documents issued during three years before and after earthquake, we identified patients of cerebrovascular stroke. We divided the two towns into 11 districts and investigated their damage and socioeconomic states by district. By using the Cox proportional hazard model, we evaluated the risk of cerebrovascular stroke in relation to the prevalence of completely destroyed houses by district (range 2.9%-45%).
Results: Age- and sex-adjusted relative hazards of cerebrovascular stroke for prevalence of completely destroyed houses by district was 1.61 by prevalence of 25 percent (95%CI 1.09-2.38) during the first half year after earthquake, and 1.80 (1.19- 2.71) during the second half year, respectively. During the second year, adjusted relative hazard declined to 1.28 (0.89-1.84). Socioeconomic states did not alter the direction of relative hazards given by age- and sex-adjusting analysis.
Conclusion: Earthquake-induced risk of cerebrovascular stroke remained for a year and could be predicted by using the prevalence of destroyed houses by district.

29PM P7–5 A LARGE-SCALE POPULATION-BASED EPIDEMIOLOGIC STUDY ON BONE AND BONE TURNOVER IN JAPANESE WOMEN

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Purpose: To determine normal values of bone mineral density (BMD) and biochemical markers of bone turnover in Japanese women of various ages and to clarify factors affecting BMD and the biochemical markers.
Methods: We randomly selected 4,550 women aged 15 to 79 years from 7 municipalities scattered over Japan. The study comprised of bone mass measurements by DXA at the spine, femoral neck and distal forearm, measurements of biochemical markers of bone turnover, and detailed interviews on medical history and on smoking, drinking, physical exercise and diet habits.
Results: 4,310 women (94.7%) participated in the study. Peak bone mass (PBM) of the spine and distal forearm was achieved in the subjects around 35 years of age and PBM of the femoral neck appeared in younger age. Rapid decrease in BMD after menopause was observed at every site of the measurements. Prevalence of osteoporosis defined as spine BMD lower than PBM-2.5SD increased with age in the subjects aged 40 years and over. 38.3% of women aged 70 and over were osteoporotic. All the markers of bone turnover showed the lowest values in the subjects with the age of PBM and marked significantly higher values in postmenopausal women than in premenopausal women. Greater physique, greater calcium intake or milk consumption, heavy manual work and habit of exercise were suggested to be beneficial for both achieving greater PBM and decreasing the amount of postmenopausal bone loss. After allowing for these factors, the difference in BMD among the study areas decreased but still remained significant.
Conclusions: The normal values of BMD and bone turnover markers of Japanese women were presented. BMD were affected by several lifestyle factors, i. e. dietary calcium intake and habitual exercise, but the geographical differences in BMD were not fully explained by these lifestyle factors.

29PM P7–6 TIME DEPENDENCY OF THE INFLUENCE OF HAVING AN ANNUAL CHECKUP ON MORTALITY AMONG ELDERLY PEOPLE IN A RURAL COMMUNITY

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Purpose: To examine whether the influence of having an annual checkup on 5-year mortality changes with time among the aged. **Methods:** The subjects include 1,510 persons aged ≧65 years, who lived in Ohtsuki-cho, Kochi and responded to a questionnaire survey about health in 1991. They were divided by whether having an annual checkup on general health under the Health Services for the Aged Law in 1991. Time-dependency of the association between having the checkup and mortality was examined by stratifying the 5-year follow-up period into two 2.5-year intervals and fitting a Cox proportional hazards model for each interval. **Results:** In the ≧75 age group, the protective effect of having the checkup on mortality decreased with time: the hazard ratios of mortality associated with having the checkup when adjusted for age, gender and health status at baseline were 0.3[95% confidence interval(CI), 0.2-0.6] for the first interval and 0.8(95% CI, 0.4-1.3) for the latter interval. In the 65-74 age group, the effect increased with time: the adjusted hazard ratios were 0.9(95% CI, 0.4-1.8) for the first interval and 0.4(95% CI, 0.2-0.8) for the latter interval. **Conclusion:** The beneficial influence of having a checkup on mortality changes with time among the aged. The benefit disappears in a few years in the ≧75 age group.

29PM P7–7 Preventive Factors Against Being Away From Home Living: A Cohort Study Of Surviving Patients After Stroke

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Purpose: The purpose of this study is to find factors for persons with previous history of stroke to quit home living and to be enforced to institutionalize socially.
Methods: A cohort of the 516 surviving patients after stroke who admitted to six major hospitals in Tochigi prefecture in 1993 was observed. A baseline survey was conducted through home visit interview by trained nurses and public health nurses between November 1994 and January 1995. The endpoint was admission to hospitals or old-age-homes over six months, and death. Endpoint data was collected by home visit interview survey between October 1996 and January 1997. Cox's proportional hazard models were used, and sex, age, and ADL were treated as confounding factors.
Results: In the baseline survey the response rate was 89.7% (463/516). Among 463 patients, survivors until the baseline survey were 423. In the endpoint survey, the follow up rate was 79.4% (336/423). The hazard ratios (95% CI) of major preventive factors are as follows; social activities 0.11(0.02-0.59), using care instruments 0.17(0.05-0.60), reforming house 0.19(0.05-0.82), bathing delivery 0.20(0.05-0.90), using day-care service 0.22(0.03-1.67), eating many vegetables 0.34(0.15-0.74), eating much protein 0.35(0.16-0.76), under medical care 0.42(0.17-1.01).
Conclusion: For care services, using care instruments, reforming house, and bathing delivery is helpful to prevent being away from the home living.

29PM P7–8 A RURAL POPULATION BASED CASE-CONTROL STUDY OF SENILE CATARACT IN INDIA

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Purpose: To evaluate risk factors for cataract in India.

Methods: Using a community based case-control design, 258 cases & 308 controls from one centre and 301 cases & 591 controls from another were studied. The subjects were from rural areas and were aged 40-60 years. Using logistic regression analysis, the associations between senile cataract and various variables were studied.

Results: Systolic blood pressure, exposure to sun light were associated with senile cataract in both the centres (OR=1.4 & 1.4 for sys.BP and 1.6 & 1.3 for exposure to sun light). Utilization of cooking water (OR=0.5), exposure to fire & dust (OR=1.8), family history of cataract (OR=5.0) and use of cheap cooking fuel (OR=2.1) were other variables that showed significant association in either centre.

Conclusion: The study provided some clues to the etiology of senile cataract. However, further studies are needed to know the specific role of these factors in the causation of cataract.

29PM P10–1 USE OF RISK BEHAVIOR - BASED HIV SENTINEL SURVEILLANCE DATA AND MODELING OF THE HIV EPIDEMIC TO EVALUATE AIDS PREVENTION STRATEGIES IN JAPAN

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While the AIDS epidemic in Japan appears to be still in its infancy, an alarming increase in the last few years has highlighted a need for more extensive investigation of the causes and pathways of its spread in Japan and improved efforts at its control. In addition to prostitutes, injection drug users (IDUs) have been implicated in contributing to the explosive epidemic now occurring in Asia. In Japan, the overlap of the IDUs and widespread prostitution places Japan at risk for an major epidemic, mirroring the epidemic in other Asian countries. Due to small numbers of current known cases, that threat remains largely unrecognized and unaddressed.

With the proposed risk behavior-based sentinel surveillance (RBBSS) system in Japan to monitor HIV transmission and risk behavior in key high-risk groups, including IDUs, foreign female prostitutes (FFPs), and their customers, the information collected would help identify reservoirs of HIV infection, model the trends of expansion and assist in the development of more appropriate intervention programs.

The project develops a behavior risk/transmission model from information on high-risk behavior from sentinel surveillance surveys, validates the model's predictions of the epidemic using RBBSS data, then applies the results of an actual high-risk group intervention trial to predict the effects on components of the epidemic and thereby help guide public health policy and AIDS prevention decisions.

29PM P10–2 POPULATION-BASED TUBERCULOSIS SURVEILLANCE WITH RFLP ANALYSIS IN OKINAWA PREFECTURE

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PURPOSE: To examine the usefulness of the restriction fragment length polymorphism(RFLP) analysis in the routine contact actions of tuberculosis(TB) and in the epidemiological surveillance of TB. *METHODS*: The RFLP analysis has been done for all isolates of tubercle bacilli from newly registered TB patients in Okinawa prefecture between April,1996 and September,1997. Bacterial isolates were collected from cooperating medical facilities, including Okinawa National Chest Hospital and Prefectural Hospitals and Public Health Centers, which cover virtually all bacteriologically confirmed patients in Okinawa prefecture. Positive culture specimens were periodically submitted to the Research Institute of Tuberculosis where the analysis was made with the standardized method. When an identical band pattern was seen in the isolates from two or more different patients, the Public Health Centers discussed the possible link or contact between them based on the information collected from the patients by public health nurses' interview in the routine patient service. *RESULTS*: About 200 samples have been collected and RFLP analysis has been completed for them. Out of them so far 9 clusters consisting of 2 or more members have been identified. The biggest cluster which contained 9 patients had 3 patients who had contact before. The link of these cases was confirmed with the conventional epidemiological information collected by public health nurses. But there has been so far no evidence of contact among the remaining members in this cluster. For a cluster containing 4 patients, the link had been revealed by the conventional epidemiological information between 2 of them, and not between 2 other members. For another cluster containing 3 patients, the link among the members was revealed only after the more careful re-investigation based on the RFLP results. The index case as the source of infection to the 2 patients was identified afterwards. On the other hand, there was no apparent contact within members of the remaining 6 clusters, as proven by the routinely collected patient information. Discussion was made over the methods of the epidemiological investigation to confirm the link of the patients or the route of transmission of infection in a cluster.

29PM P10-3 AIDS AWARENESS AMONG THE OVERSEAS JOB SEEKERS FROM BANGLADESH

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Purpose: To find out the necessity of providing AIDS awareness among the overseas job seekers from Bangladesh before they go abroad.

Methods: The study was carried out among the randomly selected 300 overseas job seekers by interviewer administered questionnaire when they came to health check-up centres during the period of February to March, 1997. Variables asked included demographic information, AIDS related knowledge, source of AIDS knowledge, knowledge and practice about condom, curability of AIDS, attitudes toward AIDS and high risk behaviors.

Results: Twenty-six percent of the respondents had some sorts of AIDS awareness with the mean score 1.63 (CI, 1.29-1.96) with the perfect of 13, although most of them had false beliefs about mode of transmission. Multiple logistic regression analysis revealed that occupations other than farmer ($p<0.04$), newspaper reading ($p<0.02$), area of living in certain districts ($p<0.02$) and knowledge on where to buy condom ($p=<0.0001$) where significantly associated with AIDS awareness.

Conclusion: Insufficient AIDS awareness among the overseas job seekers calls for the public initiatives to facilitate knowledge diffusion among them before they depart for abroad.

29PM P10-4 PULMONARY TUBERCULOSIS PATIENTS WITH DIABETES MELLITUS REGISTERED IN NAGOYA CITY, 1989-1995

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Purpose: This study was conducted to clarify the influence of complicated diabetes mellitus(DM) on the epidemiological features of pulmonary tuberculosis (TB) during the last 7 years.
Methods: Of 726 newly registered pulmonary TB patients at the Nakagawa Health Center or the Meitou Health Center in Nagoya City between 1989-1995, 69(9.5%) were complicated with DM. After a follow-up of at least 6 months, we studied the severity of pulmonary TB patients with respect to DM.
Results: Of the 726 patients, there were 51(11.0%) male and 18(6.9%) female patients who had the complicated condition of DM. The rate of cavity or positive tubercle bacilli was higher in pulmonary TB patients with DM than in patients without DM. However, there was no significant difference in the negative conversion rate of tubercle bacilli between patients with and without DM.
Conclusion: The complication rate of DM in Pulmonary TB patients was approximately 10%. Screening test for TB and the health administration of TB patients should therefore be conducted with consideration toward TB

29PM P11-1 PREVALENCE OF STRONGYLOIDIASIS; SUMMARY OF OUR SURVEYS IN THAILAND, INDONESIA AND CAMBODIA.

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Strongyloides stercoralis is an intestinal helminth that infects millions of people in both developed and developing countries. Although infection with *Strongyloides* can cause significant pathological lesions, most patients do not show signs or symptoms of infection.

Formerly, prevalence estimates range under 10 percent among populations in Southeast Asia. Recently, however, the agar plate method was invented by Arakaki *et.al.*(1988) and has been shown to be successful in detecting *Strongyloides* in fecal materials, while traditional methods have been reported to be unreliable. Since prevalence rate of *Strongyloides* in several surveys using this method has been revealed very high, it is suggested that global prevalence of *Strongyloides* infection is much higher than the present estimation.

This presentation summarizes our surveys using this method in Thailand, Indonesia and Cambodia.

This method is described briefly; a fecal sample is placed at the center of an agar plate, and then, worms crawl out onto the agar medium during incubation (27℃, 2-5 days), leaving behind detectable characteristic worm tracks. We have applied the agar plate method as well as traditional methods to the stool examination.

The positive rate of *Strongyloides* infection in total was 15.0% out of a total 4810 samples examined. The results of each survey are shown in the below table.

	Thailand	Indonesia	Cambodia
Total number of examined	416	761	3633
Strongyloides-positive rate	31%	10%	14%

29PM P11-2 AN EXPERIMENTAL STUDY ON THE ENDURANCE OF IMMUNE MEMORY OF INTRADERMAL MICRO-INJECTION WITH RABIES VACCINE

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Purpose: The purpose of the experimental study is to observe the effect of the immune recall responses induced by intramuscular injection (IM) with concentrated Primary Hamster Kidney Cell Vaccine (PHKCV) on days 180, 365, 545 and 730 after 0.1mL nonconcentrated PHKCV was vaccinated by intradermal inoculation(ID), so as to determine the enduring time of the immune memory induced by ID 0.1mL nonconcentrated PHKCV. According to the aboved-mentioned, the purpose which the high risk group of rabies, especially the rabies cases with a short incubation can be protected effectively will be achieved.

Methods: 160 students were sampled by cluster sampling from the students without history of inoculating rabies vaccine and bitten by animals in middle school in Pingyin county of Jinan city. They were divided into five groups randomly according to seat numbers. Of the 160 students,10 students with seroconversion before vaccination and 7 school dropped were rejected. Of the 143 subjects, 72 males and 71 females. They were aged 11-15. The vaccinating regimens: group No.1, 2, 3 and 4 recived by ID 0.1mL nonconcentrated PHKCV in the triceps brachii on days 180, 365, 545 and 730 before five routine doses injected with nonconcentrated PHKCV respectively, as the experimental groups. Group No.5 was injected by IM concentrated PHKCV in the triceps brachii according to routine 5 doses, as a control group. The serum antibody was tested by ELISA. The seroconversion rates were analysed statistically by X square test for five groups and X square cut apart for comparing the seroconversion rates of every two groups.

Results: There were four intervals of 180, 365, 545 and 730 days between ID and IM PHKCV, the seroconversion rates were 96.55%,100%, 100%(180 day); 76.67%, 100%, 100%(365 day); 75.86%, 100%, 100% (545 day) and 75%, 100%, 100%(730 day) on days 7, 14 and 30 after the first dose IM respectively. As mentioned, the seroconversion rates of four experimental groups were all markedly higher than 40.74% of five routine doses ($P<0.05$) on day 7 after IM the first dose. The immune endurance and the enhancing immune effect of concentrated PHKCV on day 365 could be observed as well. The results indicated that the seroconversion rates on days 180, 365 and 380 (on day 15 after booster injection) were 96%, 83.33% and 100% respectively.

Conclusion: The stated results prove that the concentrated PHKCV has better immune endurance and the immune memory can maintain two years induced by 0.1 mL nonconcentrated PHKCV. The immune effect inoculated by IM two to three doses on day 730 after ID 0.1 mL nonconcentrated PHKCV was better than that of five routine doses as the first time vaccination. If intradermal micro-injection were performed with higher titre of rabies vaccines, the longer of immune memory would be maintained.

29PM P11–3 THE STUDY ON THE EPIDEMIC FEATURES OF TYPHOID FEVER IN RURAL AREAS OF JIANGSU, CHINA

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Purpose: In order to point out the effective measures to decrease the higher incidence of typhoid fever in Jiangsu China, we carried out a study on the epidemiological features among three counties in 1996.

Methods: A population based case-control study was conducted in three counties during Jan. and Dec. 1996. 701 typhoid fever cases were diagnosed and about 1/5 of them (144 cases) were randomly selected as the studying subjects, 144 "health" controls were matched with cases in age, sex. All subjects identified were questioned according to the questionnaire designed.

Results: Total number of the cases in these three counties was 701. Annual incidence (23.05/100,000) in 1996 was higher than that in whole province (11.46/100,000). The incidence in the age of 5-9 categories is the highest. The results from case- control study showed that the rate of eating contaminated food in case group (71.53%)was significantly higher than that in control group 34.04%). X^2 is 40.13 (P<0.01). OR is 7. 75. The peak month in sea coast area is in May, which is 3 months earlier than that in other areas. These may be caused by eating raw sea food. X^2 is 5.33 (P<0.05). OR is 2.86.

Conclusion: The trend of transmitted route of typhoid fever was from waterborne to foodborne. It should be emphasized on strengthening health education, not eating raw sea foods and using typhoid fever Vi vaccine.

29PM P11–4 A method to evaluate the incidences of infectious diseases by using the surveillance system in Japan

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Purpose: The surveillance system of infectious disease in Japan has some problems. The first one is that the type and size of the monitor stations and the quality of the informations vary among prefectures. And the second is that the numbers of patients reported by the surveillance system depends on how many patients visit the monitor stations. This study proposes a new method to compare the incidences among the prefectures.

Methods: There are two assumptions that each prefecture has equal incidense of exanthema subitum and the disease under investigation has the same population at risk as that of exanthema subitum. We calculated the ratio of the weekly number of patients per monitor station of the disease under investigation to that of exanthema subitum among prefectures. Then, the ratio of all Japan was the standard in making a comparison among the prefectures.

Results: Although the weekly number of measles patients per monitor station in 50th week in 1995 in Kagawa prefecture is 15th rank in all Japan, the ratio to that of exanthema subitum was 4th rank. The change seemed to be related to an epidemic in some regions.

Conclusion: This method makes it more easy to compare the incidences of infectious diseases among the prefectures. More accurate prediction or warning system is one of the problems yet to be solved.

29PM P11–5 METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* (MRSA) ISOLATION FROM PHARYNGEAL SWAB CULTURES ON ADMISSION TO A JAPANESE GERIATRIC HOSPITAL

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Purpose: The development of MRSA strains is a serious clinical and social problem as a causative pathogen of nosocomial infections. Elderly has been reported to be a high risk group for MRSA infection. We evaluate the risk factors of MRSA isolation among patients at admission to a geriatric hospital.

Methods: During the two fiscal years from April 1994 to March 1996, 233 consecutive elderly patients of a geriatric hospital routinely underwent bacterial cultures on admission. The material for bacterial culture was a pharyngeal swab. The hospital selected in the present study was located in Fukuoka, Japan ,and consisted of an internal medicine ward with long stay units. In order to evaluate risk factors for MRSA isolation, a cross-sectional study was carried out. Statistical analysis was performed using the Statistical Analysis System package (SAS institute).

Results: The isolation rate of MRSA was 3.0% among the patients admitted from their own homes, 9.7% among those from nursing homes , and 14.0% among those from other hospitals. The patients from nursing homes were older than those from their own homes and those from other hospitals. The patients from their own homes had better activity of daily living (ADL), higher levels of hemoglobin and serum albumin than those from nursing homes or other hospitals. Multiple logistic regression analysis revealed that fever (odds ratio=1.60) and ADL disability (odds ratio=1.49) were independent risk factors for MRSA isolation, and hypoalbuminemia (odds ratio=1.55) became an independent risk factor for MRSA isolation in the model using serum albumin instead of ADL score. But old age was not so.

Conclusion: ADL disability and hypoalbuminemia were shown to be risk factors for MRSA isolation. This may explain relatively high MRSA isolation rate among the elderly from nursing homes or other hospitals, who have poorer nutritional status and more limited ADL as compared with those from their own homes.

29PM P11–6 MOLECULAR EPIDEMIOLOGIC ANALYSIS OF METHICILLIN-RESISTANT *STAPHYLOCOCCUS AUREUS* BASED ON DIVERSITY OF COAGULASE GENE, PROTEIN A GENE, AND *MEC* REGULATOR GENES

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Purpose: *S.aureus*, especially methicillin-resistant *S.aureus*(MRSA) is the commonest bacterial pathogen in Japanese hospitals recently. Differentiation of the bacterial strains is important to know transmission routes and thereby control measures of nosocomial infections. In this study, efficacy of typing methods based on bacterial genome was evaluated and genomic diversity of *S.aureus* was analyzed.

Methods: A total of 296 *S.aureus* strains isolated from clinical specimens in Sapporo Medical University Hospital in the period between 1993 and 1997 were analyzed. Divergent regions of staphylococcal coagulase gene(*coa*), protein A gene(*spa*), and *mec* regulator genes were amplified by polymerase chain reaction(PCR). Genomic differentiation was made by the size of PCR product(*spa* type), fragmentation pattern of PCR product digested with a restriction enzyme *AluI*(*coa* type), or direct DNA sequencing of *mecI* gene and *mecA* promoter region.

Results: Molecular typing method employed in this study enabled more detailed discrimination of *S.aureus* compared with conventional typing methods, e.g. coagulase typing. *S.aureus* clinical isolates were classified into 15 *coa* types or 10 *spa* types including some novel ones. Most of MRSA(more than 85%) belonged to a single *coa* type with DNA fragments of 486bp, 243bp, and 81bp and a single *spa* type represented by DNA fragment containing 10 repeats of 24bp unit, while methicillin-susceptible *S.aureus*(MSSA) distributed evenly into 14 *coa* types and 9 *spa* types. These findings suggested the tendency to single clonality for MRSA and multiclonality for MSSA. However, mutation in *mecI* gene or *mecA* promoter region in MRSA which is essential for expression of methicillin resistance was not identical among the MRSA strains examined, and several different patterns of mutation were detected. These results suggested that although a majority of MRSA might have originated from a single clone, different genomic mutations were generated in *mec* regulator genes during the process of developing methicillin resistance.

29PM P11-7 NUTRITIONAL STATUS AND PREVALENCE OF *HELICOBACTER PYLORI* INFECTION IN A RURAL KOREA

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Purpose: In this study, we invastigated the status of nutritional intakes, health and the infection of *helicobacter pylori* in a rural Korea.

Methods: One hundred eighty-three persons(102 female and 81 male) who aged over 40 years, were surveyed for the prevalence of *helicobacter pylori* infection, nutritional intakes, lifestyle, educational level and economic status by ELSIA, 24 hours recall and individuall interview methods, respectively.

Result: In this area, the average energy, total protein, fat, carbohydrates intakes, average BMI, SBP and total cholesterol of subjects were 1387.2±518.1kcal/day, 55.3±38.3g/day, 13.6±13.2g/day, 242.6±80.6g/day, 24.2±3.0(female 24.8±3.3, male 23.4±2.5), 125.6±19.9mmHg, 152.4±108.4mg/dl respectively. The incidence of helicobacter pylori was 64.5% in this syudy. The *helicobacter pylori* infection negative(-) group were higher intaked energy, total protein, total fat(P<0.05), animal fat(P<0.05), Iron(P<0.001), vitamin A(P<0.01), vitamin C(P<0.05) but lower intaked calcium than positive(+) group.

Conclusion: BMI of male was lower than female(P<0.01). Energy intake was 66.9% of RDA. *Helicobacter pylori* infection was increased with age, low education level, low monthly income and number of child

29PM P11-8 INCIDENCE RATE OF CREUTZFELDT-JAKOB DISEASE IN JAPAN

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Purpose: To clarify incidence rate of Creutzfeldt-Jakob disease during the most recent decade in Japan.

Methods: A nationwide mail survey was conducted, of which subjects were all hospitals with more than or equal to 100 beds that had at least one of the three departments; department of neurology, department of psychiatry, and department of neuropathology. The survey required patients' sex, date of birth, date of diagnosis, diagnostic criteria, past medical history, whether or not to be a familial case, and prognosis.

Results: Eight hundred, twenty-one patients with Creutzfeldt-Jakob disease were reported from 493 hospitals all over the country from January 1985 through March 1996, and annual incidence rate was 0.49 per million population for males and 0.68 for females. An age-specific incidence rate was the highest among 70-79 years of age, followed by 60-69, and 50-59. The incidence and mortality rates of the disease increased during the observed period; the incidence rate among young generations, however, did not elevate. Of these cases, 43 had a history of cadaveric dura graft transplantation.

Conclusion: A nationwide incidence survey of Creutzfeldt-Jakob disease in Japan revealed the incidence and distribution of the disease in the recent decade, and the incidence and mortality rates have become high during the observed period.

This study was conducted by Japan CJD Surveillance Group (Chairman, Dr. Takeshi Sato) in 1996 sponsored by the Ministry of Health and Welfare of the Japanese government.

29PM P11-9 LONG-TERM FOLLOW-UP FOR INTERRUPTION OF MOTHER-INFANT TRANSMISSION OF HEPATITIS B VIRUS WITH HEPATITIS B VACCINE AND REVACCINATION.

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Purpose: In order to determine the schedule, method and efficacy of revaccination with hepatitis B vaccine (HBVac) for interruption of mother-infant transmission of hepatitis B virus (HBV) after primary vaccination of HBVac alone and HB Immunoglobulin (HBIG) plus HBVac.

Methods: 98 of high risk infants born to HBV carrier mothers were randomly divided into two groups. Group I included 55 cases who received HBVac vaccination at birth, 1 and 6 months of age. Group II included 43 cases who received HBIG prior to HBVac. Two groups had been followed up to proper time of revaccination. Blood specimens were collected from the vaccinated neonates at 1, 2, 3, 4, 5, 6 and 7 year of age respectively. Blood specimens were tested for HBsAg and anti-HBs by means of EIA.

Results: There were 45 cases (81.8%) in Group I and 39 cases (90.7%) in Group II who had positive anti-HBs. The mean value of anti-HBs titer was 111.1 mIU/ml in Group I and 410.4 mIU/ml in Group II after the first year of vaccination (t=40.1, p<0.01). The antibody titers gradually decreased to a level of less than 10 mIU/ml after the 4th year in Group I (6.1) and after the 5th year in Group II (8.3). Using one rule dose of HBVac for participants with <10 of anti-HBs administrated that the mean values of titer after 1 year were 98.4 in Group I and 101.3 in Group II (t=0.192, p>0.05). The decrease below to 10 of anti-HBs titer was finding after three years at revaccination.

Conclusions: The study indicates that the duration of protective efficacy is over 4 years with HBIG plus HBVac, being longer than of HBVac alone. The revaccination must be performed in 3 years in Group I and in 4 years in Group II. An additional dose of the HBVac should have been effective for three years since revaccination among both groups.

29PM P11-10 A FOLLOW-UP STUDY OF INHABITANTS IN THE HIGH INCIDENCE AREA OF HEPATOCELLULAR CARCINOMA WITH SPECIAL REFERENCE TO HCV SEROPOSITIVITY

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Purpose: We followed-up inhabitants in the area of high incidence of hepatocellular carcinoma (HCC) to assess their prognostic risk factors with special reference to anti-hepatitis C virus antibody (HCV) seropositivity.

Methods: In June of 1992, a baseline survey, including HCV seropositivity, other serological tests, and several life-styles, was conducted for 3,575 inhabitants aged 30 years or over (1,150 males and 2,425 females) at K. Town of Saga Prefecture, where the age-adjusted incidence of HCC was reported as high as 47.2 and 10.2 per 10^3 population in 1987 for males and females, respectively. A follow-up survey was performed from April to June of 1997. Hazard ratios (HRs) and their 95 % confidence intervals of potential risk factors for mortality by all causes as well as for having newly diagnosed HCC were estimated with the conditional logistic regression analysis.

Results: During the follow-up period, 73 males and 51 females died with various causes, and 12 males and 10 females were newly diagnosed as having HCC. The risk on mortality was significantly increased with age (trend, HR=2.76, 2.28~3.35) and sex (male, HR=2.18, 1.52~3.13). For males, the age-adjusted risks on mortality were significantly increased with having HCC (HR=13.37, 6.83~26.17), any other cancer (HR=5.80, 3.56~9.46), liver cirrhosis (HR=8.07, 4.23~15.37), HCV seropositivity (HR=2.38, 1.42~3.99), and so on. For females, the age-adjusted risks on mortality were significantly increased with having any cancer other than HCC (HR=18.11, 10.40~31.53), liver cirrhosis (HR=5.31, 2.11~13.39), family history of liver diseases (HR=2.72, 1.36~5.47), and so forth. For males, the age-adjusted risks on having HCC were significantly increased with HCV seropositivity (HR=74.56, 9.60~579.32), cessation of alcoholic drinking (HR=4.82, 1.27~18.24), family history of liver diseases (HR=3.83, 1.03~14.23), and so on. For females, the age-adjusted risks on having HCC were significantly increased with HCV seropositivity (HR=29.09, 5.60~151.09), cessation of alcoholic drinking (HR=24.22, 3.06~191.66), and so forth.

Conclusion: The factor of drinking cessation is probably a result caused by medical advice for chronic liver diseases rather than a risk factor for HCC.

29PM P11–11 Change of results in liver function tests during ten years among the inhabitants infected HCV in an epidemic area

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Purpose: To clarify the variation of liver function tests during ten years among people infected by HCV in an epidemic area.
Methods: A survey was conducted for adult inhabitants in an epidemic area of N town in Nagano Prefecture, Japan. Liver function tests were measured from 1985 to 1994, and anti-HCV was determined from 1991 to 1994. AST, ALT and γ-GTP were observed for six years retrospectively and four years prospectively in the subjects with and without anti-HCV.
Results: Of all subjects with anti-HCV, twenty nine percent had normal level of ALT, AST and γ-GTP during the survey periods. Frequencies of abnormal value in the subjects were as follows: ALT > AST > γ-GTP. Frequency of abnormal value of each indicator were higher in males than in females. Coefficient of variation of each indicator in individual was greater in subjects with anti-HCV than those without.
Conclusion: The variation of each indicator of liver function was larger in subjects with anti-HCV than those without. However, each indicator did not get worse during ten years.

29PM P11–12 A COHORT STUDY OF HUMAN T-LYMPHOTROPIC VIRUS TYPE-I INFECTION AND CAUSE-SPECIFIC MORTALITY AMONG ATOMIC-BOMB SURVIVORS

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Purpose: There have been few longitudinal studies on the long-term health effects of human T-lymphotropic virus type-I (HTLV-I) infection.
Methods: We performed a cohort study of 3,090 atomic bomb survivors (aged 39-92 years) in Nagasaki, Japan, using baseline data from the Adult Health Study sample of 1985-1987. Serum HTLV-I antibody status at baseline was determined by indirect immuno-fluorescence assay. The association between anti-HTLV-I seropositivity and cause-specific mortality until 1994 was evaluated using time-to-event models.
Results: The prevalence of HTLV-I seropositivity in men and women was 99/1,196 and 171/1,894, respectively. During a median follow-up of 8.5 years, 428 deaths occurred. There was one case but no death from adult T-cell leukemia/lymphoma (incidence rate=0.48 cases/1,000 person-years; 95% confidence interval [CI] 0.01-2.6). After adjustment for the effects of sex, age and other potential confounders, significantly increased risk among HTLV-I carriers was observed for deaths from heart diseases (hazard ratio [HR] 2.00; 95% CI 1.14-3.51) and ischemic heart disease (HR 4.28; 95% CI 1.75-10.5). The association of anti-HTLV-I seropositivity with mortality from all causes (HR 1.33; 95% CI 0.99-1.77), liver cancer (HR 2.87; 95% CI 0.95-8.65), and chronic liver diseases (HR 5.02; 95% CI 0.95-26.6) was of borderline significance.
Conclusion: These findings suggest that HTLV-I infection exerts adverse effects on mortality from causes other than adult T-cell leukemia/lymphoma, especially from heart diseases.

29PM P12–1 PASSIVE SMOKING EXPOSURE AND CANCER INCIDENT RISKS: A POPULATION-BASED COHORT STUDY

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Purpose: The relation between passive smoking and cancer except lung is unclear. We evaluated each site and overall cancer risk by exposure to passive smoking at home in a population-based cohort.
Methods: We followed up 31,345 people living in urban (Sendai) and rural (Wakuya, Tajiri) Japanese area from 1984 to 1992 (9 years). On female nonsmokers, relative risks (RR) and confidence intervals (CI) of site-specific and overall cancer incidence in relation with their family's smoking status at baseline survey and at primary school were computed using a Cox proportional hazard model.
Results: Husband smoking at baseline was associated with a higher risk of overall cancer except breast (RR =1.30, 95% CI =1.03-1.63), and a lower risk of breast cancer (RR =0.57, 95% CI =0.34-0.99). The relative risks were unchanged after adjustment of confouding variables.
Conclusion: These results indicate that passive smoking affects the risk for sites of various cancer.

29PM P12–2 MENSTRUAL AND REPRODUCTIVE FACTORS RELATED TO THE RISK OF COLORECTAL CANCER BY SUBSITE: A CASE-CONTROL ANALYSIS

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Purpose: The authors hypothesized that reproductive factors of colorectal cancer that are probably mediated by endogenous hormones would differ according to colonic subsite.
Methods: Information on reproductive factors was obtained from 372 female colorectal cancer cases (113 proximal colon; 126 distal colon; 133 rectum) and 31,061 cancer-free controls who were first-visit outpatients between 1988 and 1995 at the Aichi Cancer Center Hospital, Nagoya, Japan.
Results: Multiple logistic regression analysis showed that late age at interview, a family history of colorectal cancer among first-degree relatives, menstrual regularity, late age at menopause, late age at first pregnancy, and late age at first full-term pregnancy were significantly associated with the risk of colorectal cancer, which strongly suggests that colorectal and breast cancer may share the same carcinogenesis. In polytomous logistic regression analysis, particularly noteworthy was that the odds ratios for age at menarche (p-value for heterogeneity of odds ratios = 0.010), age at first pregnancy (p = 0.016), and age at first full-term pregnancy (p = 0.028) were significantly higher for distal than for proximal colon cancer.
Conclusion: This study supports the hypotheses that there is a strong association between reproductive factors and risk of colon cancer, and that the carcinogenesis of colon cancer, by subsite, shows etiologic distinctions.

29PM P12-3 PHYSICAL ACTIVITY AND RISK OF BREAST CANCER : A CASE-CONTROL STUDY OF JAPANESE WOMEN

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Purpose: The purpose of this study was to determine the relationship between physical activity and breast cancer risk.
Method: A case-control study was conducted in Ibaraki, Japan. Cases were 148 women aged 26-69 diagnosed with breast cancer at Tsukuba University Hospital or Tsukuba Medical Center. Two controls were individually matched to cases by age (within 1 year) and residence. A self-administered questionnaire was used to obtain information on physical activity and the effects of potential confounders. Conditional logistic regression analysis was used to estimate odds ratios (ORs) and 95 percent confidence intervals (95%CI).
Results: After adjustment for covariates, recreational physical activity was associated with a reduced risk of breast cancer (p for trend = 0.005). OR for breast cancer among women who played regular sports or exercise more than 4,184 kilojoules (1,000 kilocalories) per week was 0.35 (95%CI = 0.16, 0.74), as compared to women with no sports or exercise. The risk of breast cancer was also reduced in women with higher occupational physical activity levels, but it was not significant (p for trend = 0.189). The adjusted OR among the highest level was 0.39 (95%CI = 0.15, 1.01) with the lowest level as reference.
Conclusion: Recreational and occupational physical activities were associated with a reduced risk of breast cancer in Japanese women.

29PM P12-4 COHORT STUDY ON CANCER MORTALITY AND BLOOD ZINC AND COPPER LEVELS IN THE RESIDENTS OF HOKKAIDO, JAPAN

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Purpose: To investigate the relationship between cancer mortality and blood zinc levels in the Japanese residents.
Methods: The six hundred thirty two subjects (291 males and 341 females), aged from 20-89y, were followed up for 14 years from 1982 in a rural community of Hokkaido, Japan. Blood levels of zinc and copper were determined by the anordic stripping method. Hazard ratios and 95% of confidence intervals were calculated using Cox proportional hazard model after controlling for sex, age, and habits of smoking and alcohol drinking.
Results: The numbers of all causes and cancer of all sites were 81 and 30, respectively. Hazard ratio of all causes was lower for the high zinc subjects (H.R.:0.567;C.I.:0.30-1.006) in comparing to the moderate zinc ones, especially for males. Hazard ratio of cancer mortality also tended to be lower for high zinc subjects (H.R.:0.750;C.I.:0.304-1.851) and it was higher for low zinc/copper subjects (H.R.:1.760; C.I.:0.780-3.974), comparing to the moderate subjects.
Conclusion: The mortality of all causes in the community subjects was lower for the high zinc residents. The blood levels of zinc and zinc/copper ratio may be one indicator of risk factors for cancer mortality.

29PM P12-5 REPRODUCIBILITY OF PAST HISTORY OF DISEASE AND FAMILY HISTORY OF CANCER IN QUESTIONNAIRE SURVEYS

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Purpose: To assess the reproducibility of past history of diseases and family history of cancer in questionnaire surveys of a cohort study.
Methods: 214 rural residents aged 40-69 in northeastern Japan were given self-administratered questionnaires four times in 5.5 years. The consistency rate of response on past history of diseases, family history of cancer, and smoking and drinking habits between questionnaires done at different intervals was obtained. Subjects who answered NO or had no response in the earlier questionnaire but YES in the later one were assumed new cases and deleted from calculation to minimize error in the rate.
Results: The percentage of subjects with no response was higher in past history and family history(37.0%) than in smoking and drinking(14.0%). The consistency rate between surveys 2 weeks apart was higher in smoking and drinking(90%) than in past history and family history(80%). There was no significant decrease in consistency rate for the above items when survey interval was within 1year. However, consistency rate reduced significantly for the past history, family history, and drinking habits when survey interval was 4.5 or 5.5 years.
Conclusion: The consistency of past history of diseases and family history of cancer was maintained well when survey interval was within 1 year.

29PM P12-6 EPIDEMIOLOGICAL STUDY ON ENVIRONMENTAL RISK FACTORS FOR ESOPHAGEAL CANCER IN CHINA - WITH REFERENCE TO NUTRITIONAL STATUS -

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Puopose: To find out risk factors for the development of esophageal cancer in China. **Method:** A food intake-frequency survey using the 7-day weighted inventory questionnaire was conducted for subjects of four groups: one was 404 populations (247 males and 157 females) living in high-incidence area of esophageal cancer; one was 352 populations (188 males and 164 females) living in the middle-incidence area; one was 400 populations (224 males and 176 females) living in the low-incidence area; one was 301 patients (201 males and 100 females) who had undergone esophagectomy for squamous cell carcinomas or adenocarcinomas in the fourth Hebei Medical Hospital. The intake for several groups of food was investigated, and then the intake of protein, fat, carbohydrate, total energy and vitamin was calculated by use of the Standard Tables of Food Composition in Japan.**Results:** Clear-cut differences in the intake of foods were seen among four groups, suggesting that the regional differences in the nutritional style exist. In males, the intakes of potatoes, fruit and/or vegetables were lower in populations living in the high-incidence area as well as the patients than the other populations. Similarly, the intake of potatoes in females was lower in the both groups, but the lowered intakes of fruit and vegetables were seen only in populations living in the high-incidence area.**Conclusion:** The lowered intakes of fruit, vegetables and potatoes, which are associated with the lowered intake of carotene, vitamin A and C, may be important risk factors in the development of esophageal cancer.

29PM P12-7 RELATIONSHIPS BETWEEN INFANT FEEDING METHODS AND RISK FACTORS FOR BREAST CANCER

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Purpose: The association between breast feeding and breast cancer risk remains controversial. We investigated relationships between infant feeding methods and risk factors for breast cancer.
Methods: 24,769 women, age 40-64 years, responded to the questionnaire survey in 1990. The data of these women including reproductive histories, breast feeding history, family history of cancer and educational background was analyzed. Using logistic regression model, odds ratios for the choice of breast feeding were evaluated.
Results: Late age at menarche (16y.o.≦; OR 1.48, 95%CI: 1.28-1.71) and high body mass index at 20 years old (24≦; OR 1.23, 95%CI: 1.11-1.35) were associated with the choice of breast feeding. Late age at first birth (28y.o.≦; OR 0.28, 95%CI: 0.25-0.32), more than a high school education (OR 0.54, 95%CI: 0.48-0.60) and family history of breast cancer in mother (OR 0.67, 95%CI: 0.44-1.01) were related to formula supplement. The association between number of parity and infant feeding methods was unclear. The analyses according to 5 year age group also showed similar results.
Conclusion: Although the personal reasons for stopping breast feeding were unknown, infant feeding methods were related to several breast cancer risk factors. A better understanding of the role of breast function, i.e. breast feeding, in the etiology of breast cancer seems important in future studies.

29PM P12-8 DESCRIPTIVE EPIDEMIOLOGY OF PANCREATIC CANCER IN JAPAN

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Purpose: To explore descriptive epidemiological features of pancreatic cancer in Japan, by examining secular trends in mortality (1950-1995) and incidence (1975-1991) rates.
Methods: Crude and age-adjusted mortality rates were calculated, based on routinely available National Vital Statistics data provided by the Ministry of Health and Welfare. Incidence data were obtained from the Research Group for Population-Based Cancer Registration. Age-specific mortality and incidence rates were calculated. Age and cohort effects on mortality and incidence were examined, using the multiplicative model proposed by Breslow. Linear trend by 2010 was projected for mortality and incidence.
Results: Mortality had steadily increased from 1950-1995 in both sexes. But, when age-adjusted, it showed levelling-off after 1985. The two oldest age groups experienced the most steep increasing gradient. The incidence rate in 1975-1991 aslo showed the similar trend to the mortality rate. Risk of both pancreatic cancer incidence and mortality progressively increased when age advanced. In females, cohort effect on mortality was unaltered in those born after 1911.
Conclusion: Age-adjusted mortality and incidence rates had sharply increased in the past decades, but levelled off since 1985 in Japan. Diagnostic improvements and cigarette smoking might have largely been ascribable to this variation in mortality and incidence.

29PM P12-9 RELATIONSHIP OF SERUM LIPIDS AND CANCER INCIDENCE OF PARTICIPANTS IN HEALTH EXAMINATION

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Purpose: Recent epidemiolgical studies reported the relationship of serum lipids to cancer.We investigated the relationship between cancer incidence and serum lipids level among the participants of mass health examination.
Method: Totally 30,994 people aged over 40 who received mass health examination from September 1992 to march 1995 were observed up to October 1996 by record linkage with the cancer registry system in Tottori prefecture.
Cox's proportional hazard analysis was applied to estimate the magnitude of risk of serum lipids level, smoking habit and participation pattern and other factors.
Result: Continuous participants have lower smoking rate and higher serum HDL-C and total cholesterol level than noncontinuous participants . Hazard ratio of high serum HDL group is significantly lower (0.5 ,CI:0.2-0.9) even after adjustment of confounders,such as age, BMI, smoking status, blood pressure and participation pattern of health examination in male.
Conclusion: We revealed that an inverse association of HDL-C and cancer incidence.Further research of HDL-C in relation to cancer is neccesary .

29PM P12-10 RISK FACTORS FOR GASTRIC AND LUNG CANCERS FROM A POPULATION-BASED COHORT STUDY, JAPAN

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Purpose: Since Hirayama's study in 1965-82, there have been few prospective studies of the general population on cancer in Japan, although lifestyles and environmental factors have changed during the last 30 years. To investigate the relationships between various environmental factors and the risk of such common cancers as gastric and lung cancers, a large-scale population-based cohort study has been conducted in Nagoya, Japan.
Methods: The baseline survey was conducted in 1985 using a self recorded questionnaire, involving 24,489 inhabitants aged 40 or more. From a 10 year follow-up study, 217 and 161 cases with a newly diagnosed gastric and lung cancers were identified, respectively. The person-years were used to calculate relative risk (RR) and 95% confidence interval (CL) by Cox's proportional hazard model.
Results: Increased risk of gastric cancer was found among male smokers (RR=1.82; 95%CI=1.07-3.11) and male heavy drinkers (aRR [adjusted for other risk factors]=1.99; 95%CI=1.27-3.14), but RRs for various other factors were not statistically significant except a decreased risk for everyday coffee drinking in females (aRR=0.37; CI=0.18-0.79). Smoking was apparently associated with increased risk of lung cancer (RR=5.72; CI=2.50-13.08 for males and RR=2.05; CI=0.97-4.32 for females). RRs for other various factors were not statistically significant except the increased risk for frequent coffee drinking (aRR=1.89; CI=1.03-3.44 for males who drank 3 or more cups of coffee per day) and the decreased risk for frequent intake of fruit in males (aRR=0.47; CI=0.22-0.85). Frequent intake of green-yellow vegetables tended to decrease the risk of lung cancer in both males and females.
Conclusions: In the present study, the current risk level of smoking status for lung cancer was confirmed. To find other significant risk factors for gastric and lung cancers, a prolonged follow-up would be needed.

29PM P12-11 FAMILY HISTORY AND SUBSITE OF GASTRIC CANCER: DATA FROM A CASE-REFERENT STUDY IN JAPAN

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Purpose: A comparative case-referent study was conducted using Hospital-based Epidemiologic Research Program at Aichi Cancer Center (HERPACC) data in Nagoya, Japan, to clarify the effect of family history on gastric cancer by subsite.

Methods: This study comprised 995 histologically confirmed gastric cancer cases (180 cardiac, 430 middle, 365 antrum, and 20 unclassified) and a total of 43,846 non-cancer outpatient at Aichi Cancer Center Hospital between 1988 and 1995. Logistic regression was used to calculate odds ratios (OR), adjusting for age, year and season at first hospital-visit, habitual smoking, habitual alcohol drinking, regular physical exercise, preference of salty food and raw vegetable intake.

Results: In both genders, moderately increased risk was observed for gastric cancer by positive family history of gastric cancer with a statistical significance (OR≒1.5), while no association was observed between the risk of gastric cancer and the family history of other cancers. OR increased in the middle and antrum part of gastric cancer, and not in cardiac part. Increased risk was prominent especially in those who has mother's history of gastric cancer.

Conclusion: Although risk increase is moderate, the results of the present study suggested possibility that the risk of family history for gastric cancer varies by subsite.

29PM P12-12 RELATIONSHIP BETWEEN CYP1A1 (AHH) ACTIVITY AND LUNG CANCER IN A JAPANESE POPULATION

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Purpose: Since aryl hydrocarbon hydroxylase (AHH) is considered to be responsible for the activation of benzo(a)pyrene (BP) and other polyaromatic hydrocarbons in cigarette smoke into carcinogens, it is important to examine CYP1A1 (AHH) activity in the determination of susceptibility to lung cancer.

Methods: Both CYP1A1 activity (AHH activity) and polymorphisms of CYP1A1 gene were determined in 108 lung cancer patients and 95 healthy controls. Adjusted means were computed by the GLM procedure. A logistic regression analysis was used to control possible confounding factors and to estimate odds ratio (OR).

Results: Non-induced AHH activity was detectable in all the samples. AHH inducibility, as well as non-induced AHH activity, showed a very wide interindividual variation. No significant associations were found between adjusted AHH activity and histologic type of tumor, nor TNM stage of lung cancer patients. Adjusted AHH inducibility of genotype C (geometric mean and 95% confidence interval (CI), 15.56 and 11.69-20.71) in MspI polymorphism was significantly higher than those of the other two genotypes ($p<0.0001$); no significant difference was observed between genotypes A (4.76 and 3.82-5.93) and B (5.60 and 4.57-6.86). Non-induced AHH activity of genotype Val/Val (0.121 and 0.082-0.178 pmol/min/10^6 cells) in isoleucine-valine (Ile-Val) polymorphism was significantly higher than those of genotypes Ile/Ile (0.042 and 0.034-0.052 pmol/min/10^6 cells) and Ile/Val (0.040 and 0.030-0.053 pmol/min/10^6 cells)($p<0.0001$). Even after controlling for age, cigarettes smoked per day, and season of the year, high AHH inducibility (7.0> vs. 0< <=3.0: OR and 95 %CI, 12.4 and 2.88-53.4), and genotypes C and Val/Val, were found to be risk factors for lung cancer.

Conclusion: High AHH inducibility (7.0>) may play an important role in lung carcinogenesis.

29PM P12-13 IS THE SEX RATIO OF GASTRIC CANCER IN GUATEMALA PECULIAR - 2nd REPORT.

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【Ppurpose】 It was documented that there was no country in which the male to female sex ratio was less than one. When the limited mortality data in Guatemala in 1992 were analyzed, it was found that the male to female sex ratio of gastric cancer was 0.83, as presented at IEA meeting in 1996. In the present paper, it is aimed to verify the peculiar sex ratio of gastric cancer in Guatemala, using extensive mortality data in Guatemala.

【Method】 Based on the mortality data by sex, age group and causes of death and population in 1985-89 from Ministry of Public Health in Guatemala, the mortality rates of all causes and gastric cancer, and the male to female sex ratio were calculated by age groups.

【Results】 Number of all causes deaths and gastric cancer deaths in 5 years (1985-89) in Guatemala among 8.44million (M: 4.27milliom, F :4.17 million) population were 338,555 (M: 189,311, F: 149,244) and 3,710 (M: 1785, F : 1925), respectively. The male to female sex ratios of all causes deaths for the age groups of 0-14, 15-24, 25-34, 35-44, 45-54, 55-64 and 65 + were 1.1, 1.5, 1.7, 1.6, 1.6, 1.4 and 1.2, respectively. On the other hand, the sex ratios of gastric cancer deaths for the same age groups were 1.0, 0.7, 0.7, 0.8, 0.7, 1.0 and 1.1, respectively. Crude sex ratio of gastric cancer death in 5 years in Guatemala was 0.9.

【Conclusion】 In Guatemala, the inverse male to female sex ratio (0.9) of gastric caner mortality was observed in 1985-89. Such unique observation has not been reported in other countries, so far. The reasons for the peculiar ratios of gastric cancer remains to be solved.

29PM P12-14 DOSE COFFEE CONSUMPTION REDUCE THE MORTALITY RISK OF LIVER CANCER ?

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Purpose:

Coffee consumption can prevent γ-GTP contained in the liver from rising due to the intake of alcohol. Therefore we investigated the hypothesis that coffee consumption reduce the risk of mortality of liver cancer using a eight-year follow-up study.

Methods:

The study population consisted of 7375 people aged 30 and older who experienced 51 deaths of liver cancer during the period 1987-1995. The base line survey collected data on demographic characteristics, medical history, and health habits. Death certificates were obtained for confirmation of death. We calculated the relative risk of mortality of liver cancer using Cox proportional hazards model.

Results:

After controlling for age, sex, smoking, alcohol intake and liver disease, the relative risk of mortality of liver cancer for coffee drinkers with 1 or more cups per day and less than 1 cup per day relative to non-drinkers were 0.41 (95% confidence interval(CI)0.16-1.05) and 0.75 (95%CI 0.38-1.48), respectively.

Conclusion:

This study suggested that coffee consumption had a protective effect on the mortality risk of liver cancer.

29PM P12–15 REGIOANL VARIATIONS IN THE INCIDENCE OF CHILDHOOD CANCER IN KOREA

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Purpose: The differences in cancer incidence between different regions within a country can provide important clues as to etiologic factors. We performed this study to inquire into the regional variations in the incidence of childhood cancer in Korea.
Methods: A total of 2,803 cases, registered in the National Cancer Registry from 1993 to 1995, were analyzed. These are 34 cities in Korea with a childhood population of over 50,000 (A-F; population over 300,000, remainder AA-BB). Their childhood cancer rates were compared with the rates in the rest of the nation.
Results: The crude incidence of all childhood cancer was 89.8 per million. The cumulative incidence to age 15 was 0.135% and the age standardized rate (ASR), calculated using the world standard population, was 92.7 per million. The city ASRs ranged from 41.9 to 138.5. The ASRs of E(RR;1.15), F(RR;1.24), AI(RR;1.36) and AL (RR;1.50) cities were significantly higher (P<0.05), however those of A(RR; 0.80), AM(RR;0.86), AT(RR;0.45) and AU(RR;0.59) cities were significantly lower (P<0.05). In the 0-4 years age group, F(RR;1.19), AI(RR;1.44), AL(RR;1.70) and BB(RR; 1.60) cities showed higher rates(P<0.05). In 5-9 years and 10-14 years, F city (RR;1.33, RR;1.23) only had higher rates(P<0.05).
Conclusion: Further study will be needed in order to investigate possible environmental factors which may account for the regional variations.

29PM P12–16 SURVIVAL OF CANCER PATIENTS IN OSAKA, 1975-1989

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Purpose: Survival calculated by data from population-based cancer registries can be used as a comprehensive index to evaluate cancer control activities in the area. We calculated survival of cancer patients in Osaka during 1975-89 using data from the Osaka Cancer Registry.
Methods: Approximately 132,700 cancer patients were followed for 5 years after diagnosis. The 5-year relative survival rate (RSR) by sex, site and period of diagnosis was calculated using survival probability for the Japanese population.
Results: In 1987-89, RSR was 40% for all sites of both sexes, while females (48%) showed a higher survival than males (34%). As to site, three levels of survival were discernible: high (larynx, breast, uterus and urinary bladder, 66–83%), intermediate (stomach, colorectum, ovary, prostate and lymphatic tissue, 34–52%), and low (liver, gallbladder and extrahepatic bile duct, pancreas and lung, 5–11%). Between the periods of 1975-77 and 1987-89, RSR for all sites increased appreciably, from 30% to 40%. Similar improvements were also observed for many site. However, little improvement in survival was noted during this period for cancers of the liver, gallbladder and extrahepatic bile duct, pancreas and lung.
Conclusion: Cancer control for many sites was effective during 1975-89 with the exception of cancers of the liver, gallbladder and extrahepatic bile duct, pancreas and lung, for which different control measures seem to be indicated.

29PM P12–17 CANCER INCIDENCE IN MISASA, A SPA AREA IN JAPAN WITH A HIGH RADON BACKGROUND

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Purpose: The effects of exposure to low-level radon remain unclear. We investigated the effects of exposure to radon on cancer incidence by a historical cohort study.
Methods: Misasa town in Tottori prefecture was divided into exposed and control areas, with mean indoor radon concentrations about 60 and 20 Bq · m^3 respectively. A cohort of 4331 subjects (2983 and 1248 persons in exposed and control areas) whose ages were 40 or older on Jan 1, 1976, were followed until Dec 31, 1993, by referring to the residence registry for vital status and Tottori Cancer Registry for incidence of cancer. The mean observation period was 13.9 years. Age-, period-adjusted rate ratios were presented by Poisson regression analysis.
Results: Compared to control area, the rate ratios in exposed area for all-site cancers, lung cancer, stomach cancer were 0.90 (95% Confidence Interval (CI) 0.65-1.25), 1.07 (95% CI 0.28-4.14), 0.56 (95% CI 0.33-0.98) for female, and 1.05 (95% CI 0.82-1.36), 1.65 (95% CI 0.83-3.31), 0.71 (95% CI 0.45-1.12) for male, respectively.
Conclusion: No difference was observed on incidence from all-site cancers between exposed and control area, while lung cancer incidence seemed to increase and stomach cancer incidence seemed to decrease in exposed area. Caution is needed for the interpretation, however, since individual exposure level was not measured and major confounding factors, such as smoking, could not be controlled in this study.

29PM P12–18 Cancer incidence rates in Japanese urban company workers

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Purpose: Descriptive analysis of data on cancer incidence from the work-site-based cancer registry was conducted by comparison to the population-based study.
Methods: Five thousand seven hundred and sixty-nine male subjects aged 40 years and over in stockbrokerage companies in Tokyo were followed up for 78 months from 1988. The age-specific incidence rates from registries covering large populations (Research Group for Population-based Cancer Registration in Japan in 1991) were applied to calculate the standardized morbidity ratio. The Poisson distribution was used to calculate a p-value.
Results: Age-standardized incidence rate (per 100,000 population / year) were as follows: stomach (148.0), colon/rectum (85.7), lung (53.7), liver (62.9), esophagus (20.3), bladder (12.6), prostate (5.5), larynx (6.4), pancreas (14.9), gall bladder (10.5), skin (3.6), brain & nervous system (3.9), lymphatic tissue (10.4), hematopoietic tissue (8.7), thyroid (2.7), and lip/oral cavity/pharynx (11.6). The standardized morbidity ratio of liver (0.6*), bladder (1.9*), prostate (2.9*), larynx (2.9*), and brain & nervous system (4.8**) reached statistical significance.
Conclusion: Although further studies are needed, our results indicated that the incidence of cancer from the work-site might be different from that of a population-based study.
* $p<0.05$, ** $p<0.01$

29PM P13–1 RELATIONSHIP BETWEEN HEALTH PRACTICE AND PERSONALITY DIMENSIONS IN JAPANESE ELDERLY

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Purpose: Seven health practices: excessive alcohol consumption, smoking cigarettes, being obese, sleeping fewer or more than 7-8 hours, having very little physical activity, eating between meals, and not eating breakfast, are known as risk factors for higher mortality. On the other hand, some personality traits, such as type A pattern, are considered to be correlated with health outcomes. Thus, we examined associations between health practices and personality dimensions in Japanese elderly.
Methods: In June 1996, periodic health examination were conducted among those aged 65 years living in a N-city, Japan. Information collected by a self-administered questionnaire included lifestyle factors and each personality dimensions. To measure the five personality dimensions: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C), the NEO Five-Factor Inventory (NEO-FFI) was used. Mean of each dimension was compared by seven health practices using t-test or Tukey-Kramer test.
Results: In men, ever smoker was associated with lower A score, lower BMI with higher N score, sleeping shorter with higher N score and lower A score, and sleeping longer with higher E and C score. In women, differences was found on E only: thin person scoring lower. Other health practices were found not to be associated with any personality dimensions. Higher health practice index was associated with lower N score in men and with lower C score in women.
Conclusion: Suggested is that getting good health practice would be partly affected by one's personality in Japanese elderly.

29PM P13–2 TRENDS OF DEMENTIA-FREE LIFE EXPECTANCY AMONG ELDERLY IN THE UNITED STATES

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Purpose: To examine the secular trends of dementia-free life expectancy among elderly Americans, and to observe if an increased longevity is accompanied by an increase in the duration of life lived with dementia.
Design and setting: Two chronological 9-year prospective cohort studies of members of the Kaiser Permanente Medical Care Program of Northern California. The first cohort from 1 January 1971 to 31 December 1979, and the second cohort from 1 January 1980 to 31 December 1988. Estimations of dementia-free life expectancy were based on mortality data and incidence of dementia.
Study Participants: These included subjects aged 65 years and over, free from dementia at baseline. The first cohort included 2698 persons and the second cohort included 2926 elderly. Follow-up rate was 92.9% in the first cohort and 91.4% in the second cohort.
Results: Between the first and second cohorts, all-cause mortality rates declined, while the incidence of dementia remained constant in both men and women. Among the males, total life expectancy increased at a higher rate than dementia-free life expectancy. Consequently, the duration of life with dementia was extended in the second cohort. Conversely, among the females dementia-free life expectancy increased at a higher rate than total life expectancy, thus the duration of life with dementia decreased in the second cohort. The median age of dementia onset was postponed by 2-3 years in the second cohort for females, and did not show any specific difference between the two cohorts in males.
Conclusion: The trends of health expectancies suggest an extension of the duration of life with dementia for males and a compression of dementia for females. Further investigation is needed to confirm these changes in health expectancies among the elderly population.

29PM P13–3 PREVALENCE OF DEPRESSIVE SYMPTOMS AMONG THE ELDERLY LIVING IN OKINAWA

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The purpose of the present study was to assess the prevalence of depressive symptoms among the elderly living in Okinawa, the prefecture in Japan with the highest longevity rate in the nation.

Subjects comprised 1364 elderly residents aged 65 and over living in Urazoe City in Okinawa. The prevalence was estimated for 837 respondents (male:339, mean age±SD: 73.4±6.4 yr, female:498, 74.4±6.5 yr). Depressive symptoms were measured by the short version of Geriatric Depression Scale (GDS).

The prevalences based on the GDS scores of 6 or higher were:

	65-74yr	75yr-	Total
Male	17.1%	20.2%	18.3%
Female	18.7%	17.8%	18.3%

There was no significant difference according to age and sex. Although the generalizability of this result was limited, the prevalence reported in the present study was remarkably lower than those reported in several others studies to estimate the prevalence of depressive symptoms among the elderly by using GDS conducted in other areas in Japan.

29PM P13–4 LIFETIME PREVALENCE AND RISK FACTORS OF MAJOR DEPRESSION IN MIDDLE-AGED AND ELDERLY POPULATIONS IN JAPAN

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Purpose: To determine the prevalence of major depression and to know the effects of demographic variables and major life events on the disorders among middle-aged and elderly community populations in Japan.
Methods: A random sample (n=500) was selected from residents aged 50 + in a rural city of the Gifu Prefecture, Japan. Trained interviewers contacted 372 subjects between February 1996 and July 1997, and conducted 246 (66%) face-to-face interviews. The Japanese translation of the Composite International Diagnostic Interview ver. 1.1 (WHO, 1993; modified by Kessler et al., 1994) was used to assess a lifetime experience of major depression according to DSM-III-R criteria. Selected 28 major life events in the lifetime were also assessed in the interview.
Results: Lifetime prevalence rate of major depression was 4.6%. A significantly higher age-specific cumulative rate was observed in a younger birth cohort ($p<0.05$). Major physical illness and death of child were significantly associated with higher risk of major depression after controlling for sex and birth cohort (hazard ratios, 10.0 and 16.0, respectively).
Conclusion: The lifetime prevalence rate of major depression was similar with ones reported in the Western countries. Being in younger birth cohort, physical illnesses and death of child might be risk factors for major depression.
Acknowledgements: This is a collaboration with Dr. T. Kitamura, National Institute of Mental Health, Ichikawa, Japan.

29PM P13–5 THE ASSOCIATION BETWEEN LOW FAT INTAKE AND DEPRESSION IN JAPANESE.

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PURPOSE: Association between low total cholesterol and increased mortality from suicide has been reported, but little is known about the relationship of dietary intake and depression. This study examined the association between low fat intake and depression.
METHODS: Subjects were 1,390 Japanese men and women aged 28-90 years who responded to random sampling mail survey in 1996. Depressive symptoms were measured by the Center for Epidemiologic Studies Depression (CES-D) Scale. Nutritional intake was assessed using a simplified dietary intake questionnaires by Ministry of Health and Welfare.
RESULTS: Increased depression score was significantly associated with low fat intake. However, depression score was not associated with total energy intake and intake of carbohydrate, protein, alcohol and salt, respectively. It was suspected that there is a significant relationship between low fat intake and depression in Japanese.
CONCLUSION: These results may support the view that low fat intake is an important factor of depression. However, the mechanisms of this association need to be further explored.

29PM P14–1 EFFECTS OF THE MASS SCREENING FOR NEUROBLASTOMA USING HPLC IN HOKKAIDO, JAPAN

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Purpose: In order to investigate the effects of the mass screening for neuroblastoma using HPLC and targeting 6-month old infants in Hokkaido Prefecture, Japan.
Methods: In Sapporo City since April 1984, and in Hokkaido excluding Sapporo City since April 1988, the mass screening has been performed using HPLC. Identification of patients with neuroblastoma was dependent on the Registry of Childhood Malignancies of Hokkaido Prefecture. Deaths of the cases were confirmed using the data of the Hokkaido Government.
Results: In the prescreening period (1970–79) in Hokkaido, the incidence and the mortality of this disease at 1–4 years of age were 8.43 and 6.97 per 100,000 live births, respectively. However, those of the group screened by HPLC were 5.56 and 4.37 per 100,000 screened, respectively.
Conclusion: Considering the incompleteness of the registry in the beginning of 1970s, the incidence and the mortality of neuroblastoma at 1–4 years of age can be reduced by about 40% through the HPLC mass screening.

29PM P14–2 Effect of Screening Program on Decreasing Mortality from Lung Cancer in Japan: A Prospective Cohort Study

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Purpose: To evaluate the preventative effect of screening program for lung cancer, we conducted a population-based prospective cohort study.
Methods: We collected information on health related lifestyle including dietary habits by using self-administered questionnaires to residents in a city in Japan. Subjects were limited to males aged 41 years and over. After 40 months observation, we estimated the mortality rate from lung cancer in the screened group (n = 9,020) relative to the unscreened group (n = 2,833) using a Cox proportional hazard model.
Results: We followed-up 38,098 person-years. The multivariate relative risk for death from lung cancer in the screened group relative to the unscreened group were 0.99 (95%CI = 0.41–2.40, p = 0.98).
Conclusion: From our cohort study, we are unable to confirm the preventative effect of the chest x-ray mass screening system on decreasing male mortality from lung cancer in Japan.

29PM P14–3 ANALYSIS OF EFFECT OF CANCER SCREENING TO PREVENT PREMATURE DEATH IN JAPAN

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Purpose: The leading cause of death in Japan is by malignant neoplasm, of which 20% is due to gastric cancer. In Japan, cancer is responsible for 38% of total premature death among people below age 65. Preventing premature death by cancer was a objective of the Health Care Law for the Elderly. Since the introduction of Health Care Law for the Elderly, cancer screening has become readily available throughout Japan.The Health Care Law for the Elderly consists five cancer screening, that including gastric, endometrial, lung, colorectal and breast cancer.
Methods: Potential years of life loss (PYLL) was used to measure the impact of premature death on cancer. PYLL was calculated by subtracting the age of death from a defined length of life end point. In this study, the length of life end point was assumed 65 years of age. Based on the Ministry of Health and Welfare's Vital Statistics, we calculated the age-adjusted PYLL between 1950 and 1993. Age-adjusted rates of PYLL were based on the Japanese population in 1993. To measure the impact of cancer screening participate rate was used.We analyzed the effect of cancer screening on PYLL caused by cancer.
Results: The PYLL attributable to cancer and total disease has been decreasing over time.Although PYLL by gastric cancer has been decreasing, PYLL by lung cancer has been increasing. However participate rate of cancer screening has been 10-20% of the target population, cancer screening has not contributed decrease in PYLL of cancer.
Conclusion: Although the PYLL by cancer has been decreased in the last decade, our analysis did not show the strong evidence of the contribution of cancer screening to this phenomenon. Improving participate rate in the future will help suppressing PYLL by cancer.

29PM P14-4 RELATIONSHIP BETWEEN THE NUMBER OF TEETH AND LIFESTYLE

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Purpose: To maintain good eating habits among elderly people, Japan is at present promoting the '8020' movement, which seeks to assure that people have 20 teeth until 80 years old. To clarify the relationship between the number of remaining teeth and lifestyle, we conducted an epidemiological survey relating to dental examinations.

Subjects and Methods: The subjects were 229 residents (32 males and 197 females) of Nagoya City, whose average ages were 64.1 years for males and 58.6 years for females. The items examined were dental examinations for the number of teeth and CPITN (Community Periodontal Index of Treatment Needs); bone mass index or percentage of *trabecula of calcaneus* using an ultrasound method; past history of diseases such as osteoporosis and fracture; smoking habit; drinking habit; dietary habits for milk, dairy products, small fish, tofu, vegetables, fruit, snack and confectioneries; menstruation; history of childbearing; dental care in the early stage and frequency of dental brushing.

Results: The number of teeth decreased with age, and the CPITN increased with age. The means of the number of teeth by age group were 27.0 for less than 50 years old, 24.1 for 50-59 years old, 22.8 for 60-69 years old, and 12.6 for 70 years old or more. The correlation coefficients were -0.56 ($p<0.0001$) between the number of teeth and age, and 0.56 ($p<0.0001$) between CPITN and age. To assess the risk for the number of teeth of less than 20, we calculated the odds ratio (95% CI) adjusted for age, sex and CPITN by logistic regression analysis. The odds ratios of interest were 0.426 (0.173-1.012) for "see a dentist in the early stage," 0.328 (0.081-1.117) for "not eating between meals" and 0.280 (0.100-0.717) for "more frequent intake of vegetables or fruit."

Conclusion: Early dental checkups and proper dietary habits were suggested to maintain better tooth condition, even though the remaining teeth number would decrease with age.

29PM P14-5 LEISURE TIME PHYSICAL ACTIVITY IN THE JAPAN LIFESTYLE MONITORING STUDY I

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Purpose: To reveal the proportion of 40-69 year-old people who engage in leisure time physical activity and their lifestyle characteristics.

Methods: In a multicenter study for monitoring lifestyles in 13 areas in Japan in 1992-1994, the subjects (N=1893) were interviewed according to a newly-developed semi-quantitative assessment method for usual physical activity in leisure time and on the job.

Results: The proportion of subjects reporting any habitual leisure time physical activity within the last one year was 60% in men and 54% in women and was larger in urban residents. The subjects with more leisure time physical activity tended to have less on-the-job physical activity and higher school career. In addition, men with more leisure time physical activity tended to have healthy lifestyles such as nonsmorking, taking many sorts of foods and having enough knowledge about health promotion.

Conclusion: Level of leisure time physical activity was affected by residential area and working status. And in men, it was also related to healthy lifestyles.

29PM P14-6 LIFE STYLE AND LOBORATORY TEST RESULTS FROM A MASS HEALTH SCREENING ON THE MIDDLE-AGED IN AN URBAN COMMUNITY.

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Purpose: To analyze behavior and consciousness relating with the health on the general population, we compared life style (habits) to laboratory tests obtained from an urban community-based health screening.

Subjects and methods: In 1996, 4,869 male and 19,928 female community members underwent the annual health screening. The questionnaire on life style (habits) included taking breakfast regularly, considering nutrients , salt intake, smoking, alcohol drinking, physical exercise and taking rest. The laboratory tests included routine hematological serum biochemical measurements, urinalysis, physical examination, ECG and eye-ground examination.

Results and Conclusion: With advancing age, persons with abnormal laboratory tests findings as well as persons with preferable habits increased, especially in the female. The most dominant items were taking breakfast regularly, considering nutrition balance, reducing salt intake, daily exercise and taking enough rest. The people participating the community health screening paid noticeably high attention on their health and life style.

15:00 - 19:30, 1998. 29

29PM SII-1 AN OVERVIEW OF LIMITS IN EPIDEMIOLOGY

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Epidemiology, especially analytical epidemiology, is important to find new risk factors/protective factors of diseases. However, there are several limits in conducting epidemiologic studies and in interpreting results of epidemiologic studies. Major limits in epidemiology may be as follows:
1)to detect small effects of low dose exposure, e.g., effects of passive smoking and air pollution on lung cancer, under circumstances where several known/unknown confounding factors may exist.
2)to prove causal relationship between new risk factors and a disease based on data from classical epidemiologic studies.
3)to predict risk of individuals, not a group.
4)to obtain informed consent in conducting epidemiologic studies, especially randomized intervention trials.
5)to get research funds for conducting large scale epidemiologic and intervention studies.
6)to report results of epidemiologic studies accurately to the general public.
There may be some ways to solve those problems and epidemiologists must pay largest efforts to overcoming those limits in epidemiology and to contribution to disease prevention and health promotion.

29PM SII-2 THE LIMITS OF EPIDEMIOLOGY ARE DELINEATED BY THE CHALLENGES IN WHICH WE GET INVOLVED.

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Introduction: Our concern with the limits of epidemiology is the result of the relatively rapid growth of the discipline over the past couple of decades. More issues than ever are being addressed by epidemiologists and more people who are not formally trained as epidemiologists are using epidemiology as a method for problem investigation. This is a situation that requires a reassessment of roles. The thesis of this paper is that the limits of epidemiology are pushed forward by moving the discipline to new problem solving areas in health services. The latter will provide opportunities to develop new methodologies and to invigorate the profession.
Historical review: A number of examples will be provided from developments in epidemiology over the past two centuries to illustrate that whenever epidemiology has faced a new problem context a crisis has ensued. These crises have been dealt with by the introduction of new methodology and/or technology to move the discipline to a new level of sophistication. Laboratory investigations, statistics, sociometric methods have all been introduced to epidemiology in such situations. However, with all these new methods and techniques, the basic investigative and inferential paradigm of epidemiology has not changed to any great extent over the past two centuries. The latter is one of the reasons why epidemiology has become a discipline in its own right.
Assumed limits: The discussion about the limits of epidemiology has been brought forward recently with the reports of small effects or small relative risk estimates. Also, the controversies created by contradictory findings between a number of these studies has further fueled the debate on setting some limits to epidemiology. The question that needs to be addressed according to some is whether epidemiologists are tackling problems that is beyond the scope of the discipline.
Problems and solutions: For small odds ratios we need to remind ourselves about the multi factorial nature of disease and other health problems. Most factors explain only a small component of the association. However, we may be able to address this issue by defining a plausible model for etiology and assessing whether our observation is consistent with the assumed model. Also, we need to look for interactions between the factors. Simple models may not make sense in such situations. Another problem is when we are dealing with small numbers and we are unable to generate enough power for our statistical analysis. We have recently proposed a new approach for case investigation that will address such a problem. There are a number of examples from epidemiologic research that generated new models of investigation within the context of problem solving. These include some of the earlier uses of case based methods such as the case cohort approach or the case crossover design.
Conclusions: Epidemiology allows us to face the challenges of problem solving constantly. Such continuous challenges need an unrelenting effort at the development of new methodologies.

29PM SII-3 MOLECULAR EPIDEMIOLOGY — DREAMS OF A MOLECULAR BIOLOGIST

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The recent progress of molecular biology is rapid and fascinating. The worldwide Human Genome Project is accelerating to define the entire human genome. Nowadays it is essential for any medical researchers to utilize genetic informations and/or to perform gene analysis. How about in epidemiology? Because my specialty is oncology, I try to discuss possibilities of cancer epidemiology using genetic analyses.

I am working on hereditary nonpolyposis colorectal cancer (HNPCC) , of which responsible genes are DNA mismatch repair genes, such as hMSH2 and hMLH1. Interestingly, the hMSH2 gene is predominant in Japanese HNPCC families, while hMLH1 is prevailing in South Korean cases. The reason for the difference is unknown.

Human tumors develop through multiple genetic changes in oncogenes, tumor suppressor genes and other cancer-related genes. Chemical carcinogens are thought to induce these genetic changes in human cells. However, the relationship between a carcinogen and a specific gene alteration is unknown in most human cancer cells. Recently, "mutational (molecular) fingerprints" have been identified in some cases. For example, aflatoxin was found to induce a specific point mutation at the 3rd base of codon 249 in the tumor suppressor p53 gene in some Chinese hepatomas. By identification of more mutational fingerprints, the human carcinogenic mechanism may be clarified in the near future.

29PM SII-4 DOES THE INDOOR ENVIRONMENT AFFECT THE RISK FOR LUNG CANCER IN NONSMOKERS? ISSUES OF MEASUREMENT OF EXPOSURE AND BIOLOGICAL PLAUSIBILITY

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Despite intense efforts to improve cancer detection, treatment and prevention over the last three decades, the age-adjusted mortality rate from lung cancer worldwide has continued to increase. Personal habits, lifestyle factors, diet/nutrition, and conditions of indoor/outdoor environment have been suggested to increase or reduce the risk of cancer.

How much lung cancer mortality may actually be attributable to indoor environmental agents? What type of indoor pollutants should the public and the scientific community have the greatest concern for? One approach to investigate the effect of environmental agents on the risk for lung cancer is to assess the extent of exposure to candidate agents and correlating the exposures with disease occurrence. A number of epidemiological studies in China have suggested that exposure to indoor air pollutants, notably fumes emitted by burning coal and volatiles from cooking oil, is a major risk factor for lung cancer in nonsmoking Chinese females. On the other hand, quite a few studies performed in the United States have reported that exposure to environmental tobacco smoke (ETS) is associated with an increase in risk for lung cancer in nonsmoking females.

This paper will discuss various issues on measurement of exposure to environmental tobacco smoke and other indoor air pollutants in relation to the claimed risk for lung cancer. Emphasis will be given to (i) strength and deficiencies of the reported findings, (ii) measurement of exposure to the claimed environmental agents, and (iii) biological plausibility of effects linked to the claimed association.

29PM SII–5

ETHICAL ISSUES IN EPIDEMIOLOGIC STUDIES

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Many ethical issues arise in the conduct of epidemiologic studies. Among the most important are assurances of confidentiality of the information obtained, adequacy of informed consent, conflict of interest on the part of the investigator, and a favorable risk-benefit ratio. Considerable concern, with major potential impact on the future of epidemiologic research, has recently arisen because of the incorporation of genetic markers into epidemiologic research studies. Few institutional review boards responsible for approving research projects or members of the general public appreciate the important distinction between research on high frequency, low-risk susceptibility genes, such as those involved in the metabolism of carcinogens, and research on low frequency, high-risk genes for disease (e.g., the breast cancer gene, BRCA1). The primary concern of review panels and other groups, such as legislators, is that information resulting from such research may preclude an individual from obtaining medical insurance or result in employment discrimination. However, the potential for such discrimination differs greatly between these two types of genes. Clearly, this issue needs to be carefully addressed if the new genetic tools are to be used to advance epidemiologic research on disease etiology. Examples of these and other issues, and how they are being addressed by some epidemiologic researchers in the United States, will be described in this presentation.

29PM SII–6

FROM THE EXPERIENCE OF A COOPERATIVE LARGE SCALE INTERVENTION TRIAL ON LIFESTYLE MODIFICATION

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Purpose: Large scale randomized controlled studies in Japan have mostly not succeeded due to the failure to recruit the sufficient number of participants. It is said that randomization and use of placebo are difficult to apply in Japanese culture. However, we have recently carried out a successful cooperative intervention study on lifestyle modification. Our experience is presented addressing how we overcome existing limitations.

Study Experience: We had a plan to intervene three major risk factors for cardiovascular disease, that is , hypertension, hypercholesterolemia and smoking. Participants with two risk factors were eligible and randomly allocated to either the intervention or control group for one factor. Therefore, every participants could have intervention program on lifestyle modification. This tricky design solved an ethical problem of non-intervention to the control group. The other important point is how we recruited 1500 participants. We recruited key persons, such as public health nurses and doctors in industry and local health centers. Then, we arranged a workshop for explaining the importance of the study and for making the protocol. This process motivated all key persons of the study. Before starting the trial we had also arranged training sessions.

Conclusions: In any epidemiological studies there exist some limitations. However, it is very important that we discuss and exchange views to overcome these limitations. Some solutions will be found in each situation.

30AM L–9 SITUATION AND CONTROL OF MICRONUTRIENT DEFICIENCIES IN VIETNAM.

Ha Huy Khoi, Nguyen Cong Khan, Nguyen Xuan Ninh, Tran Ngoc Ha.
National Institute of Nutrition, Hanoi, Vietnam.

Micronutrient deficiencies are prevalent in Vietnam but up to the 80's decade these hidden hunger have been yet received high concern. Control programs are given firstly to goiter and iodine deficiency with a network of implementation. Universal iodisation of salt is the main strategy. Recent survey indicated the high prevalence of iodine deficiency in lowland area. Concerning vitamin A deficiency and xerophthalmia, the supplementation of high-dose vitamin A capsule and nutrition education strategy have reduced sharply the prevalence rate of clinical signs to below the cut off point of WHO as public health significance. Anemia due to iron deficiency has been epidemiologically diagnosed recently and there are ongoing pilot project attempting to elaborate the appropriate strategy.

There was an outbreak of polyneuvritis due to vitamin B1 deficiency in 1985 in some province of North Vietnam after a big flood in 1984 and now there are still occurrence of like vitamin B_1 deficiency disease in one mountainous province but the main causal factor remain unclear. Nowadays, the control of micronutrient deficiencies program is under the sponsor of the National Plan of Action for Nutrition 1995 - 2000. New aspects of micronutrient deficiencies are arisen due to the changing of food pattern in the period of economic transition then the preparation of appropriate control policy is important.

30AM L–10 SPECIAL LECTURE: RESISTANCE TO HIV INFECTION

Roger Detels, Department of Epidemiology
University of California, Los Angeles
Los Angeles, California, U.S.A.

Observations from the Multicenter Aids Cohort Study (MACS) and other cohort studies have confirmed the existence of some individuals who resist infection with HIV despite repeated exposures. The resistance of individuals with CD4+ cells which do not have the CCR-5 receptor has been documented by O'Brien et al. and others. Shearer and Clerici have documented an Il-2 response of CD4+ cells to peptides of HIV in uninfected, but exposed individuals and Detels et al. have documented differences in distribution of WBC subsets, levels of CD25+CD8+ cells, and distribution of HLA and TAP genes among seronegative men repeatedly exposed to HIV. Imagawa et al. have isolated HIV from men who have remained uninfected and Cloyd et al. have demonstrated that in 15% of individuals HIV infection proceeded to intracellular conversion of viral RNA to DNA but not to replication of the virus. Ferbas et al. have found higher levels of chemokines and a soluble resistance factor produced by CD8+ cells in uninfected men repeatedly exposed to HIV. These studies confirm that some individuals are resistant to HIV infection, but that there is more than one biologic mechanism responsible for resistance to HIV infection.

Research on mechanisms of resistance to HIV infection continue to be carried out at UCLA and elsewhere. The most recent results of these studies will be presented and their relevance to vaccine development and development of other biologic strategies discussed.

30AM L–11 AN OBSERVATION OF THE EFFECTS OF PHYSICAL FITNESS ON HEALTH LEVEL IN A JAPANESE POPULATION

H. Yanagawa[1]
[1] Jichi Medical School, Tochigi, Japan

Purpose: This study intends to analyze the relationship between physical fitness and life style profiles, psychological functions, or other cardiovascular risk factors.
Methods: Clinical tests, a questionnaire, and physical fitness tests were conducted on 3,132 individuals (1,796 men and 1,336 women) who had been enrolled at one of the 7 collaborative health promotion centers. The physical fitness tests studies in this series consisted of 6 tests: grip strength, side step, vertical jump, standing trunk flexion, sit-up, and 2-step test. Through these tests, muscular strength, agility, power, flexibility, and endurance were measured. The clinical tests included subcutaneous fat on the back, blood sugar, total serum cholesterol, systolic blood pressure, diastolic blood pressure, height, weight and weight ratio. Each examinee was questioned about life style, including mental health, tobacco use, alcohol drink, and dietary habits.
Results: Those with advanced physical fitness level exhibited optimum mental health: the odds ratio (OD) for their sensation of fatigue (fast recovery/ late recovery) was 1.16 and that for mood recovery was 1.29. Among those with an advanced physical fitness level, the following were low OD: daily smoking 0.78, obesity (over 120%) 0.73; thick subcutaneous fat (>20mm on back) 0.77, high blood sugar level 0.64; and hypertension 0.67.
Conclusion: It became evident that the risk factors for circulatory diseases, such as tobacco use, mental illness, obesity, hyperglycemia, and hypertension are low among those with a high physical fitness level.

30AM SIII–1 Acceptable and effective prevention programs against CVD in Asia: The Challenge.

R.Beaglehole
University of Auckland, Auckland, New Zealand.

Cardiovascular diseases (CVD) are emerging as the leading cause of death and disability in all regions of the world, except Sub Saharan Africa.

Asia is not immune to these epidemics which are essentially preventable. The extensive knowledge gained from laboratory, clinical, epidemiological and community studies, mostly from research in Europe and North America is now being matched from research carried out in Asia. The major risk factors for CVD are universal. Some associations are of much greater public health importance in Asia than in other regions because of the different disease distribution in Asia, eg., the greater frequency of stroke in Asia.

The strategies of prevention and control of CVD are universal. Ultimately, the primary prevention of CVD depends on the population strategy for prevention. The high risk strategy is complementary and should be evidence based and directed towards people at high risk because of the contribution of multiple risk factors.

30AM SIII–2 ACCEPTABLE AND EFFECTIVE CARDIOVASCULAR PREVENTION PROGRAMS IN BANGLADESH.

M. Rahman, National Institute of Preventive and Social Medicine, Dhaka 1212, Bangladesh.

Publications including those of author have been reviewed.

Cardiovascular prevention programs, in order to be effective and acceptable have to be formulated in the context of the characteristics of the community(s) to be served. For this, the community characteristics with respect to risk factors, life-styles and other socio-demographic determinants need to be ascertained and the programs will vary to an extent on the community(s) where it will be implemented.

In accordance with WHO recommendations, preventive programs may be envisaged to include three components (1) Population Strategy (2) High Risk Strategy (3) Secondary Prevention. A recent concept is the dimension of prevention in childhood.

The author's study(s) reveals a couple of factors other than the "traditional risk factors". Betelnut chewing, illiteracy, and consumption of fatty food even amongst under privileged groups were found to have significant relationships.

The findings of those studies suggest for programs to be "Acceptable and effective", CVD prevention strategies should not be in drastic conflict with deep rooted beliefs and cultures, any transition should be gradual, and focus should take into account factors which pose relatively greater risks or are unique to the community(s).

30AM SIII–3 ACCEPTABLE AND EFFECTIVE CARDIOVASCULAR PREVENTION PROGRAMS IN ASIA: THAI PERSPECTIVE

C. Supornsilaphachai
Bureau of Medical Technical Development, Department of Medical Services, MOPH, Thailand

Thailand is the one of six countries in South East Asia which cardiovascular diseases have already emerged and rapidly increasing more than fifteen years. However ; it has just accepted into Thai National Health Plan not more than ten years because of the questions in size and severity of the problem and also the competition of AIDS problem.

Among the lack of knowledge and resources; cardiovascular control program was started from disease specific oriented program such as screening technique and model development appropriately for primary health care setting. This was accepted to be one of the essential activity for PHC in 1992. In the following year, the comprehensive disease orientation with broad policies for NCD control was declared. Therefore; it changed the CVD program to be more emphasized in risk reduction program by intersectoral, multidiscipline, and integration approach for example; nutrition and exercise program, non-pharmacologic care etc..

Anyhow; it is still early to say it is effective or not. We; our countries in Asia; have to learn more in our natural course of diseases, risk and other related factors ...etc. before any conclusion.

30AM SIII–4 ACCEPTABLE AND EFFECTIVE PREVENTION PROGRAMS AGAINST CARDIOVASCULAR DISEASE IN ASIA

Chitr Sitthi-Amorn, the Faculty of Medicine and the College of Public Health, Chulalongkorn University, Bangkok, Thailand

Cardiovascular diseases or CVD have been on the rise in Asia. A recent health examination survey of the general population above 15 years of age in Thailand showed that the prevalence of hypertension or HT and coronary heart disease or CHD were 10.2% and 1.05% respectively. The prevalence of stroke among the slum people above 55 years was 1%. The prevalence increased with age, smoking (20.6% regular smokers), alcohol consumption (5.2% regular users), high body mass index (16.7% overweight and 4% obese), high blood cholesterol (11.3% cholesterol more than 200 mg%), and the use of oral contraceptives. Hypertensive hemorrhage constituted a major share of stroke occurrence.

The data from the health examination survey indicated that only 71.3% of the known hypertensives were under treatment and only 61.5% of those under treatment were adequately controlled. The prevalence rates were higher in urban areas than in the rural areas. Many people in the urban areas migrated from the rural provinces several decades ago. The finding supports the notion that factors associated with lifestyles affect the prevalence of chronic diseases and thus provide a basis for intervention and prevention and that adequate hypertension and smoking control remains a challenge to health care providers.

The studies of migrant ethnic groups in Canada, the United States, WHO MONICA Project and elsewhere also supported the notion that Asians had relatively high CVD. Higher prevalence of impaired glucose tolerance, higher abdominal obesity, dyslipidemia and elevated lipoprotein might be associated with premature CVD among ethnic groups of Asian Origin.

Besides lifestyle changes, other might be associated with CVD prevalence. Thus, black Africans showed changes consistent with lesser tendency towards atheriosclerosis and cardiovascular disease than other ethic groups.

30AM SIII–5

CARDIOVASCULAR RISK FACTORS IN JAPANESE CHILDREN MAY BE DIFFERENT FROM THOSE IN WESTERN COUNTRIES. - WHAT IS AN ACCEPTABLE PRIMORDIAL PRIVENTION PROGRAM IN CHILDHOOD?

N. Yoshiike[1], T. Nakayama[2], T. Yokoyama[2], C. Date[3], H. Tanaka[2]
The National Institute of Health and Nutrition[1], Tokyo Medical and Dental University[2], Osaka City University[3]

Backgrounds: Lifestyles especially dietary habits of the Japanese have much changed during the last five decades toward those of western people. Although serum cholesterol (TC) level of the young Japanese is the same as or a little higher than those of the Americans, incidence of coronary heart diseases remains very low. Therefore, one of the important measures for cardiovascular disease prevention is primordial prevention from childhood.

Subjects and methods: One hundred twenty-five, 123, and 121 children aged 7-8, 10-11, and 13-14 years, respectively, in a rural area of Japan were included in synthetic cohorts in 1991 to observe changes in cardiovascular risk factors including dietary intake. A part of the study protocol including quality control of the Project HeartBeat! (Texas, US) was adopted for comparison of the results.

Results: TC levels were 177, 161, and 162 mg/dl in boys aged 8-9, 11-12, and 14-15 years, respectively. The corresponding values in girls were 177, 168, and 178 mg/dl, respectively. Saturated fatty acid intake (% of energy) ranged from 8.8-9.5 % in these cohorts. The degree of obesity positive while growth rate of height showed inverse correlation with TC. *[Cross-sectional data in 1992]*

Conclusion: TC levels of the Japanese children were a little higher than those in US, although dietary fat intake was quite low. No clear positive relationship between nutrients intake and TC was observed. This suggests that measures for primordial prevention including nutritional intervention programs in childhood have to be developed in a way that may be different from western countries.

30AM SIII–6

EFFECTS OF POPULATION STRATEGY AND HIGH RISK STRATEGY IN THE REDUCTION OF BLOOD PRESSURE LEVEL IN JAPAN

Kazunori Kodama[1], NIPPON DATA Research Group
[1]Radiation Effects Research Foundation

Introduction: Mortality from stroke has declined remarkably in Japan, largely due to reduction of the blood pressure (BP) level. Few studies have been made, however, of whether this lowering of BP was due to BP level reduction in the population as a whole or decreased number of high risk persons. Therefore, data from the National Survey of Circulatory Disorders (NSCD) conducted in 1980 and 1990 were examined to determine the temporal change in distribution of BP levels. **Method:** The distribution of systolic and diastolic BP was determined and compared between 10,897 subjects (4,975 males and 6,102 females) examined in the 1980 NSCD and 8,469 members (3,536 males and 4,933 females) in the 1990 NSCD. The relative distribution of the frequency was plotted, and examined to determine the pattern of change in distribution between 1980 and 1990. **Results:** The pattern of secular change in the distribution of systolic and diastolic BP was examined by five age groups of 30-39, 40-49, 50-59, 60-69, and 70 years and over. It is evident from the change in distribution of systolic BP that not only is the BP distribution shifted to the left as a whole between 1980 to 1990, but also the right tail of the distribution, that is, the region representing hypertensive subjects is likewise shifted to the left. A similar tendency is seen for diastolic BP, although not as evident as observed for systolic BP. **Conclusion:** Comparative examination of the 1980 and 1990 NSCD indicated that the reduction in BP levels in Japan was the result of reduced BP level in the population as a whole resulting from life-style change such as decreased salt intake in combination with a decreased number of high risk individuals due to improved therapeutic care for hypertensive patients. Intervention for BP in the population requires the effective combined application of the population strategy and the high risk strategy. Both of these approaches appeared to have demonstrated their efficacy in Japan.

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The First Japan and Korea Joint Seminar "Cohort Studies in Japan and Korea"

Date: 13:00–17:20 on 30 (Fri) January 1998
Venue: Room 205, the Meiji Mutual Life Insurance Company
Corporate Training Center, Tokyo, Japan

13:00–13:10

Opening Remark

Hiroshi Yanagawa, President, Japan Epidemiological Association

13:10–14:50

Problems Involved in Cohort Study, Designing, Baseline Survey and Follow-up, and Data Analysis

Chairpersons: Yoon-OK Ahn, Seoul National University
Suminori Akiba, Kagoshima University

13:10–13:30 **Keun-Young Yoo,** Seoul National University
"Current Status of Multicenter Cancer Cohort Study with Biological Materials Bank in Korea"

13:30–13:50 **Il Suh,** Yonsei University
"Blood Pressure Tracking in Korean School Children: Kangwha Children's Blood Pressure Study"

13:50–14:10 **Suminori Kono,** Kyushu University
"A Lifestyle Survey of Koreans in Fukuoka, Japan"

14:10–14:30 **Tomotaka Sobue,** National Cancer Center Research Institute
"Japan Public Health Center-based Prospective Study on Cancer and Cardiovascular Diseases (JPHC study)"

14:30–14:50 Discussion

15:10–16:50

Recent Findings Obtained from Cohort Studies

Chairpersons: Won Chul Lee, Catholic University
Kazunori Kodama, Rediation Effects Research Foundation

15:10–15:30 **Yoon-Ok Ahn,** Seoul National University
"Alternative Methods of Data Analysis in Case of Incomplete Case Ascertainment in Cohort Study: Seoul Cancer Cohort"

15:30–15:50 **Hee-Chuol Ohrr,** Yonsei University
"Kangwha Cohort Study —All Cause Mortality and Some Risk Factors—"

15:50–16:10 **Yoshiyuki Ohno,** Nagoya University
"Monbusho Large Scale Cohort Study"

16:10–16:30 **Akira Okayama,** Shiga University of Medical Science
"National Integrated Project for Prospective Observation of Non-communicable Disease and Its Trends in the Aged (NIPPON DATA)"

16:30–16:50 Discussion

16:50–17:20

General Discussion

Chairpersons: Kwang-Ho Meng, Catholic University
Takesumi Yoshimura, University of Occupational and Environmental Health, Japan

17:20–17:30

Closing Remark

Kwang-Ho Meng, The Korean Society of Epidemiology

The Fifth JEA Seminar on Epidemiology

(JEA members only/Official Language: Japanese)

Date: 9:30–16:30 on 31 (Sat) January 1998
Venue: National Institute of Health and Nutrition
1-23-1 Toyama Shinjuku-ku Tokyo, 162 Japan

■ Theme:

Dietary Survey Methods: Food Frequency Questionnaire and Its Application to Epidemiology of Chronic Noncommunicable Diseases

■ Lecturers:

Momoko Yamaguchi, Yasuhiro Matsumura, Nobuo Yoshiike (National Institute of Health and Nutrition), Chigusa Date (Osaka City University), Tetsuji Yokoyama (Tokyo Medical and Dental University)

Special Lecturer—Walter Willett (Harvard University)

Meeting of The Japanese Young Epidemiologists Society

(JEA members only/Official Language: Japanese)

Date: 18:00–20:00 on 28 (Wed) January 1998
Venue: Room 105, the Meiji Mutual Life Insurance Company
Corporate Training Center, Tokyo, Japan

■ Titles:

Session A—**Informed consent in epidemiological studies: is the "standard format" practicable?**
Gen Kobashi (Hokkaido University), Masakazu Washio (Kita-kyushu Tsuyazaki Hospital), Kaori Muto (University of Tokyo), Takeo Nakayama (Tokyo Medical and Dental University)

Session B—**Epidemiology for the next generation: perspectives and subjects.**
Shunsaku Mizushima (Yokohama City University), Hidefumi Ohga (Japan Anti-Tuberculosis Association), Satoshi Honjo (National Defence Medical College)

After the discussion, a banquet would be held near the site.
If you are interested in The Japanese Young Epidemiologists Society, please contact the manager-in-charge, TAKEO NAKAYAMA (Department of Epidemiology, Medical Research Institute, Tokyo Medical and Dental University, 2-3-10, Kanda-Surugadai, Chiyoda-ku, Tokyo, 101, Japan.
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