

HEALTH AND NUTRITION NEWS

No. 20
June 15, 2007

お知らせ

当研究所では、健康と運動・栄養に関する研究成果や関連情報を集めて評価し、皆様の健康づくりや安全のために役立てていただける情報をホームページを通じて発信しています。この度新たに、そのホームページ上に、親子で学べる健康、栄養、食べ物等に関するページ「えいようきっず」をアップしました。

えいようきっず

こけつけんこう・えいようけんけんきゅうじょ
国立健康・栄養研究所キッズページ

ホーム > えいようのきず

食品の特徴

わたしたちが食べている食べ物は、何からできているのでしょうか。また、その食べ物には、どんな栄養があるのでしょうか。

たとえば、「みそは何からできているの?」とか、「やさいを食べると、どんないいことがあるの?」...などなど。

ここでは食べ物についての、いろいろなお話を紹介しています。右下の、「もっとみる」のボタンをクリックすると、すべての食べ物のお話を見ることができます。

あなたの大きな食べ物のお話をさかしてみよう!

おすすめ情報

- こくろい 穀類について
- ぎょうがいろい えいよう 魚介類の栄養
- ぎゅうにゅう、せいぶん、えいよう 牛乳の成分と栄養
- やさい、せいぶん、えいよう 野菜の成分と栄養

[もっとみる](#)

Table of Contents

CURRENT RESEARCH PROJECTS	2
Project for Information Network of Health Food.....	Keizo Umegaki
RESEARCH FINDINGS	3
Effect of running training on DMH-induced aberrant crypt foci in rat colon.....	Izumi Tabata
Interindividual variability in sleeping metabolic rate and basal metabolic rate.....	Shigeho Tanaka
Association between food intake and functional constipation: a cross sectional study of 3,835 female students aged 18-20 years	Kentaro Murakami, Satoshi Sasaki
Soy isoflavones lower serum total and LDL cholesterol in humans: a meta-analysis of 11 randomized controlled trials.....	Kyoko Taku
About the NIHN	7
Topics	8
What is NR (nutritional representative), certified by the NIHN?.....	Nobuo Yoshiike

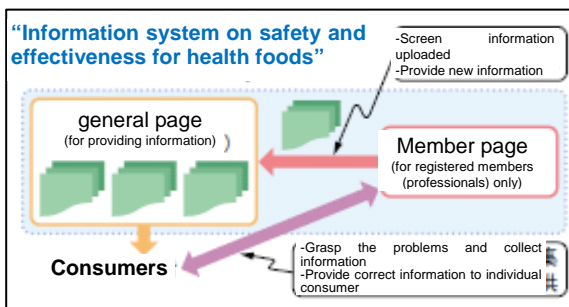
Project for Information Network of Health Food

Keizo Umegaki

Project for Information Network of Health Food

Recently, with increasing health consciousness, highly-diverse diet, and progress of research on food function, the foods that make us expect special health effects receive more attention. These foods are generally known as “health food”, in which various types of foods are included: e.g. “Food with Health Claims” approved by the government, that are strictly evaluated for its effectiveness and safety; foods with fake and exaggerated advertisement; foods to which drug substances are illegally added. So-called “health food (other than the Food with Health Claims approved by the government)” may often cause health hazards, when they are used for treatment/healing without careful consideration. What makes the problems related to “health food” more complicated is an overflow of uncertain information. In the present information society where we can easily obtain information, it is now necessary to select the information appropriately. It is therefore important to provide the fair and reliable information. If the Food with Health Claims system promoted by the government as well as the correct information on foods and health are well understood by the consumers, we believe that many problems related to “health food” could be solved.

Under this circumstance, “Project for Information Network of Health Food” continuously provides the information on national policies and makes a database of the evidence-based information on health food through our website of “Information system on safety and effectiveness for health foods (<http://hfnet.nih.go.jp/>: Japanese only)”, with focusing on the essential points to practice proper lifestyle behaviors including balanced diet and adequate exercise.



Framework of information transmission on the website “Information system on safety and effectiveness for health foods”

The followings are 4 main contents in this website;

- (1) Basic knowledge on health food
The basic information for understanding “health food” is introduced, including its definition and the overview of Food with Health Claims system.
- (2) Information on its safety and health hazards
We alert the consumers not to purchase foods for which warning on health hazards have already been issued. In addition, the cases of current and past health problems are gathered to prevent development of similar health hazards.
- (3) Hot topics on food components
The product information of each “Food for Specified Health Use (FOSHU)” and the information on nutrients included in the Dietary Reference Intakes like vitamins and minerals and on food components of hot topics are introduced.
- (4) Information database on food ingredients.
The information on food ingredients used in “health food” is provided. In particular, the summary, methodology to analyze the main components and the information on safety and effectiveness which was comprehensively collected are provided, together with the references, in the format where we can easily add/modify the information.



“Information system on safety and effectiveness for health foods (<http://hfnet.nih.go.jp/>: Japanese only)”

Current Research Projects

There are two methods to provide the information to consumers; one is “direct communication” and the other is “indirect communication through the professionals”. Direct communication through internet would facilitate quick and effective communication, whereas it has several limitations like misunderstanding of the provided information and improper information transmission. Needless to say, the capacity to read and understand would vary by person. Whilst indirect communication with individual consumers through the professionals would take time, this is the best way to provide the information properly. We, therefore, utilize both direct and indirect communication, in particular emphasizing the latter one through the professionals like nutritional representative (NR), pharmacist, dietitian etc (see Figure). Our website consists of the general page and the member page (for those who register only). The member page is designed to seek the members for the comments on the existing information as well as on the newly generated information for addition/modification, and

also to obtain the information on health foods of hot topics from the professionals. In addition, we have the webpage titled “Communication Square” where the professionals could exchange their opinions.

Many scientific articles are being published day by day all over the world, and it is not easy to review these articles and edit them for the contents on the website. We, therefore, expect the professionals to provide the information with scientific evidence in the member site. By continually accumulating the information on health food, the database will be enhanced and forms the knowledge base in Japan.

Besides, it is important to grasp the needs among consumers, and provide the information needed. In particular, the on-site professionals must know the needs among consumers. For which, the “Communication Square” in the member page would also play an important role. In order to work on the missions of our project, it is important to enhance the “Community Square”. We appreciate the active involvement of many professionals in our works.

Latest Research

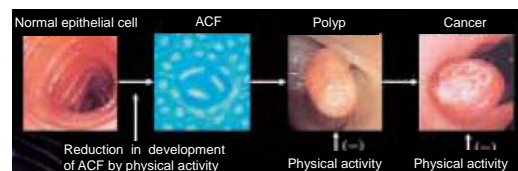
Effect of running training on DMH-induced aberrant crypt foci in rat colon

Izumi Tabata (Health Promotion and Exercise Program)

Many epidemiological studies have explored that exercise and physical activity would have a protective effect on colon cancer incidence. Yet, few experimental studies have been conducted to elucidate the mechanisms of exercise-related effects on colon cancer. It is known that polyp is formed first in the process of colon carcinogenesis. Furthermore, recent studies have shown that colon carcinogenesis may start when aberrant crypt foci (ACF) appear from the normal epithelial cell in the colon, by which polyp is formed.

In this study, one week after rats were given a subcutaneous injection of 1,2-dimethylhydrazine (DMH), running training for 120 min./day started, which continued five times per week for four weeks. It was found that the number of ACF in the training group (13 ± 11) were about half that in the control one (34 ± 22).

This study explored that physical activity were effective at the initial stage of multistep colon carcinogenesis, suggesting that increasing exercise physical activity should be important for primary prevention of colon cancer incidence.



Effect of Running Training on DMH-Induced Aberrant Crypt Foci in Rat Colon.

Med Sci Sports Exerc. 2007;39(1):70-74.

Fuku N¹, Ochiai M², Terada S¹, Fujimoto E¹, Nakagama H² and Tabata I¹

1) Division of Health Promotion and Exercise, National Institute of Health and Nutrition, Tokyo, Japan

2) Biochemistry Division, National Cancer Center Research Institute, Tokyo, Japan

Abstract: PURPOSE: We examined the effects of treadmill-running training on the induction of aberrant crypt foci (ACF), which is the first step of colon cancer induction, in the colonic mucosa of rats injected with 1,2-dimethylhydrazine (DMH). METHODS: Four-week-old F344 rats (N = 38) were randomly assigned to training (19 rats) and control (19 rats) groups. After a week, all rats were given DMH (20 mg.kg(-1) body weight) once a week for 2 wk. Running training was started at age 7 wk (speed: 10 m.min(-1), 0% grade, 120 min.d(-1), 5 d.wk(-1)). After 4 wk of training, the rats were sacrificed and the colon was removed, opened, and counted for ACF with 0.2% methylene blue staining. RESULTS: Running training resulted in lower body- (P < 0.01) and adipose fat weight (P < 0.05). The numbers of ACF and total AC were significantly lower in the running training group than in the control group (P < 0.05). The occurrences of one, three, and five aberrant crypts per focus were also significantly lower in the running training group than in the control group (P < 0.05). The ratios of total AC/ACF did not significantly differ between the running training and control groups. CONCLUSIONS: The results of the present investigation suggest that low-intensity running training inhibits the DMH-induced initiation of colon ACF development.

Latest Research

Interindividual variability of sleeping metabolic rate and basal metabolic rate

Shigeho Tanaka (Health Promotion Program)

<What's sleeping metabolic rate? What's basal metabolic rate?>

Basal metabolic rate (BMR), which is measured at resting supine position during fasting, is the main component of total energy expenditure. On the other hand, sleeping metabolic rate (SMR) is total or a part of energy expenditure (EE) during sleeping. BMR is measured in the postabsorptive state when a subject is awake, whereas SMR may be influenced by diet-induced thermogenesis right after falling asleep. Apart from these differences, however, we can regard that they are measurements taken under similar conditions, showing the similar values.

<Objective and Methods> SMR was determined as the average EE during 8 hours of sleep (SMR-8h) and minimum EE during 3 consecutive hours of sleep (SMR-3h) measured using indirect human calorimeter (IHC). Predictive equations were developed using gender, age, height, weight and body composition (fat mass and fat-free mass), and prediction error which can not be explained by these equations were regarded as "interindividual variability". IHC (Photo) accurately measures EE of each indoor activity for free-living individuals without wearing a mask (and Douglas bag). The IHC equipped at our institute is characterized by small measurement error (only 1%). BMR was also determined using a human calorimeter or a mask. Study subjects were 137 adult males/females from whom all these data were obtained.

<Results and Discussion>

The SMR/BMR ratio was 1.01 for SMR-8h and 0.94 for SMR-3h. Fat-free mass was the strongest predictor of SMR and BMR, though prediction error can also be similarly small when body weight was put in regression model together with height, gender and age.

The main finding of interest was "prediction error". Whilst prediction error of BMR (Standard error of estimate (SEE)) can be generally $\pm 8-13\%$ (about 100-180kcal/day), in the present study, SEE of SMR was about 80kcal/day or less. This corresponds to about 6% of SMR, much smaller than that of the past studies or SEE of BMR in this study. The reasons why we could obtain these findings were possibly; 1) precise measurement by IHC, 2) SMR can be measured at more stable condition, compared to BMR which is measured shortly after awaking when metabolism is changeable.

<Conclusions>

Interindividual variability of energy expenditure measured under stable resting condition was partly due to measurement error and change of measurement condition, and thus it is plausible that the actual interindividual variability of resting metabolic rate could be smaller than previously perceived. Our findings would suggest that predicted SMR fall in the range of $\pm 150\text{kcal/day}$ with 95% probability.

Note: This study was undertaken during the NIH Fellowship Program of the principal author, Ganpule AA.



Individual variability in sleeping metabolic rate in Japanese subjects.

Eur J Clin Nutr. 2007; 61: 1256-1261.

Ganpule AA¹⁾²⁾, Tanaka S¹⁾, Ishikawa-Takata K¹⁾ and Tabata I¹⁾

1)Health Promotion and Exercise Program, National Institute of Health and Nutrition, Tokyo, Japan

2)Diabetes Unit, KEM Hospital and Research Centre, Pune, Maharashtra, India

Abstract: INTRODUCTION: Basal metabolic rate (BMR) or sleeping metabolic rate (SMR) is the largest component of total energy expenditure (EE). An accurate prediction of BMR or SMR is needed to accurately predict total EE or physical activity EE for each individual. However, large variability in BMR and SMR has been reported. OBJECTIVES: This study was designed to develop prediction equations using body size measurements for the estimation of both SMR and BMR and to compare the prediction errors with those in previous reports. METHODS: We measured body size, height, weight and body composition (fat mass and fat-free mass) from skinfold thickness in adult Japanese men (n=71) and women (n=66). SMR was determined as the sum of EE during 8 h of sleep (SMR-8h) and minimum EE during 3 consecutive hours of sleep (SMR-3h) measured using two open-circuit indirect human calorimeters. BMR was determined using a human calorimeter or a mask and Douglas bag. RESULTS: The study population ranged widely in age. The SMR/BMR ratio was 1.01 \pm 0.09 (range 0.82-1.42) for SMR-8h and 0.94 \pm 0.07 (range 0.77-1.23) for SMR-3h. The prediction equations for SMR accounted for a 3-5% larger variance with 2-3% smaller standard error of estimate (SEE) than the prediction equations for BMR. DISCUSSION: SMR can be predicted more accurately than previously reported, which indicates that SMR interindividual variability is smaller than expected, at least for Japanese subjects. The prediction equations for SMR are preferable to those for BMR because the former exhibits a smaller prediction error than the latter.

Latest Research

Association between food intake and functional constipation: a cross-sectional study of 3,835 female students aged 18-20 Years.

Kentaro Murakami, Satoshi Sasaki (Nutritional Epidemiology Program)

Constipation is such a common health problem that there are many people suffering from it. It is actually ideal if dietary habits for prevention of constipation can be explored. Yet, previous studies that examined the association scientifically between constipation and food intake are very few even in the western countries, and further limited in Japan. Whilst "Rome I criteria: straining, hard stools, incomplete evacuation, infrequency of bowel movement" is recommended as a world diagnosis criteria, most of the previous studies assessed constipation based on the subjective perception or the infrequency of bowel movement only. This study, therefore, aimed to examine the association between food intake and functional constipation as defined according to the Rome I criteria, among Japanese.

Subjects were 3,835 female Japanese undergraduate students aged 18-20 years. Dietary habits during the previous month were assessed using a previously validated, self-administered diet history questionnaire (DHQ). And, functional constipation was assessed based on Rome I criteria, using the questionnaire developed for the purpose of this study.

A total of 1,002 women (26.2%) were classified as having constipation. Several foods were identified as having association with constipation. As is shown in Figure, there is a clear dose-response relationship between increased intake of rice with a decreased prevalence of constipation. The favorable effect of rice on constipation has been consistently reported in previous studies conducted in Asian countries, where rice is a main staple food. Although the actual reason is yet unknown, This association can be plausible. Likewise, an inverse association between pulse intake and constipation was observed. On the other hand, we found an adverse effect of bread and confectionery intake on constipation. With limited previous studies that examined the association with these foods, it is still unclear why these foods had such effects on constipation.

The most important issue in any scientific research is to secure high quality of methodology, rather than results. Usability/reliability of a previously validated diet history questionnaire (DHQ) used in this study has been scientifically verified by comparing with the values obtained in other dietary assessment methods and biomarkers in basic research. And, the prevalence of functional constipation was assessed based on world diagnosis criteria in this study. In addition, we assessed not only dietary intake but also possible confounding factors; lifestyle factors (physical activity level, current smoking, current alcohol drinking, oral medication usage) and other factors (residential area, size of residential area, body mass intake (BMI)) that might be associated with constipation. The present study examined the association between food intake and constipation, with excluding the effects of these confounding

factors on constipation statistically. We therefore believe that the quality of this study is very high.

However, only a single study can not be enough to provide enough scientific evidence. Needless to say, more in-depth studies should be conducted targeting Japanese people.

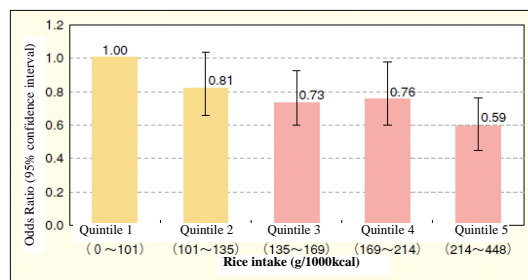


Figure 1. Multivariate adjusted odds ratios (ORs) for functional constipation by quintiles of rice intake

p for trend <0.0001;

Adjusted for residential block, size of residential area, physical activity level, current smoking, current alcohol drinking, BMI, oral medication usage and energy intake

Food intake and Functional Constipation: a cross-sectional study of 3,835 Japanese Women aged 18-20 years.

J Nutr Sci Vitaminol. 2007; 53: 30-6.

Murakami K, Sasaki S, Okubo H, Takahashi Y, Hosoi Y, Itabashi M, the Freshmen in Dietetic Courses Study II Group.

Abstract: Although we previously observed significant associations between intakes of several foods and constipation, definition of constipation was completely based on subjective perception assessed by a quite simple and single question: do you often have constipation? In this study, we examined the associations between food intake and functional constipation as defined according to symptom-based criteria (Rome I criteria: straining, hard stools, incomplete evacuation, and infrequency of bowel movement). Subjects were 3,835 female Japanese dietetic students aged 18-20 y from 53 institutions in Japan. Dietary intake was estimated with a validated, self-administered diet history questionnaire. The prevalence of functional constipation was 26.2%. Dietary intakes of several foods were significantly associated with functional constipation. A multivariate adjusted odds ratio (95% confidence interval; *p* for trend) for women in the highest quintile of dietary intake compared with those in the lowest was 0.59 (0.46-0.75; <0.0001) for rice, 0.77 (0.61-0.97; 0.003) for pulses, 1.64 (1.30-2.08; <0.0001) for confectioneries, and 1.41 (1.11-1.78; 0.01) for bread. In conclusion, intake of rice and pulse was negatively and that of confectioneries and bread was positively associated with functional constipation among a population of young Japanese women, which was generally consistent with our previous study where constipation was assessed by a quite simple question.

Latest Research

Soy Isoflavones lower Serum Total and LDL Cholesterol in Humans: A Meta-analysis of 11 Randomized Controlled Trials.

Taku Kyoko (Information Center)

Many clinical trials and meta-analyses showed that intake of soybean protein isolates and isoflavones had more positive effects on lipid profiles than animal protein, while some studies reported no significant effects. Besides, these studies did not address possible mechanisms of the effects of SPI and its component, isoflavones. This meta-analysis, therefore, was primarily conducted to evaluate the precise effects of soy isoflavones on serum on lipid profiles, with controlling for the ingested amount of soy protein.

The PUBMED database was searched on May 29, 2006, for English language reports of randomized controlled trials published from 1990 to 2006 that described effects of soy protein intake and isoflavones on serum lipid concentrations in humans. The search was performed with the key words "(soy protein OR soy OR soybean OR soya) AND (isoflavones OR isoflavone) AND (cholesterol OR lipid)", with the constraints noted previously. We also looked for relevant articles manually in the reference lists of 3 meta-analyses. Studies were selected for analysis if they met the following criteria: 1) adult subjects ingested soy protein for 1-3 mo; 2) the study was a randomized controlled trial with either a parallel or a crossover design; 3) the study had comparable groups with enriched and depleted isoflavones for the same ingested amount of soy protein; 4) the study provided the intake amount of soy isoflavones; and 5) the starting and endpoint lipid concentrations were available. Following the above criteria, 11 studies were finally selected for the meta-analysis, excluding the duplicate ones.

Ingesting 102 mg soy-derived isoflavones/d (the mean difference between the 2 groups), with controlling for the amount of soy protein ingested, for 1-3 mo significantly decreased serum total cholesterol by a mean of 0.10 mmol/L (3.9mg/dL, 1.77%, $P=0.02$) and LDL cholesterol by a mean of 0.13 mmol/L (5.0mg/dL, 3.58%, $P<0.0001$) (Figure 1); no significant effects changes in HDL cholesterol and triacylglycerol were found. Ingestion of an average 49g isoflavone-depleted soy protein (actual average intake of isoflavones is 6mg/d due to incomplete extraction) decreased total cholesterol by 0.20mmol/L (7.7mg/dL, 3.56%, $P=0.05$) among the hypercholesterolemic subcategory, decreased LDL cholesterol by 0.10mmol/L (3.9mg/dL, 2.77%, $P=0.03$) among the total population and increased HDL cholesterol by 0.06mmol/L (2.3mg/dL, 4.50%, $P=0.03$) among the normocholesterolemic subcategory, all compared with the corresponding group consuming animal protein without isoflavones. Likewise, ingestion of an average 49g of soy protein that contained enriched isoflavones (actual average intake of isoflavones is 111mg/d), in comparison with animal protein without isoflavones, significantly decreased LDL cholesterol by 0.18mmol/L (7.0mg/dL, 4.98%, $P<0.0001$) and significantly increased HDL cholesterol 0.04mmol/L (1.6mg/dL, 3.00%, $P=0.05$). The reductions in LDL cholesterol were larger in the hypercholesterolemic subcategory than in the normocholesterolemic subcategory, but no significant linear correlations were observed between reductions and the starting values. Furthermore, no significant linear correlations were found between reductions in LDL cholesterol and soy protein ingestion or isoflavone intakes.

In conclusion, soy isoflavones significantly lowered serum total and LDL cholesterol but did not change HDL cholesterol and triacylglycerol. Soy protein with or without isoflavones also significantly improved lipid profiles. Reductions in LDL cholesterol were larger in hypercholesterolemic subjects than in normocholesterolemic subjects, but they had no linear correlation with pretreatment values or isoflavone intakes. When provided concurrently with soy protein, soy isoflavones would have synergistic or additive effects on cholesterol lowering.

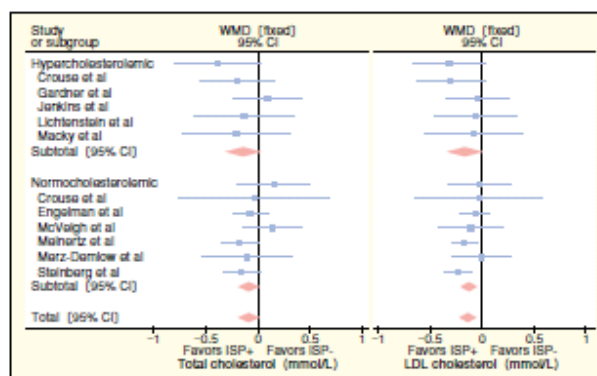


Figure Weighted mean difference (WMD) with the fixed-effect model (fixed) in endpoint total and LDL cholesterol between the group ingesting soy protein that contained enriched isoflavones (ISP+) and the group ingesting isoflavone-depleted soy protein (ISP-). The horizontal lines denote the 95%CI. ■ point estimates (the size of the square corresponds to its weight); ● the pooled estimate of treatment effect.

Soy isoflavones lower serum total and LDL cholesterol in humans: a meta-analysis of 11 randomized controlled trials.

Am J Clin Nutr. 2007; 85 (4): 1148-56.

Taku K, Umegaki K, Sato Y, Taki Y, Endoh K, Watanabe S.

Abstract:

Background: Clinical trials have reported the cholesterol-lowering effects of soy protein intake, but the components responsible are not known.

Objective: This meta-analysis was primarily conducted to evaluate the precise effects of soy isoflavones on lipid profiles. The effects of soy protein that contains enriched and depleted isoflavones were also examined.

Design: PUBMED was searched for English-language reports of randomized controlled trials published from 1990 to 2006 that described the effects of soy protein intake in humans. Eleven studies were selected for the meta-analysis.

Results: Soy isoflavones significantly decreased serum total cholesterol by 0.10 mmol/L (3.9 mg/dL or 1.77%; $P = 0.02$) and LDL cholesterol by 0.13 mmol/L (5.0 mg/dL or 3.58%; $P < 0.0001$); no significant changes in HDL cholesterol and triacylglycerol were found. Isoflavone-depleted soy protein significantly decreased LDL cholesterol by 0.10 mmol/L (3.9 mg/dL or 2.77%; $P = 0.03$). Soy protein that contained enriched isoflavones significantly decreased LDL cholesterol by 0.18 mmol/L (7.0 mg/dL or 4.98%; $P < 0.0001$) and significantly increased HDL cholesterol by 0.04 mmol/L (1.6 mg/dL or 3.00%; $P = 0.05$). The reductions in LDL cholesterol were larger in the hypercholesterolemic subcategory than in the normocholesterolemic subcategory, but no significant linear correlations were observed between reductions and the starting values. No significant linear correlations were found between reductions in LDL cholesterol and soy protein ingestion or isoflavone intakes.

Conclusions: Soy isoflavones significantly reduced serum total and LDL cholesterol but did not change HDL cholesterol and triacylglycerol. Soy protein that contained enriched or depleted isoflavones also significantly improved lipid profiles. Reductions in LDL cholesterol were larger in hypercholesterolemic than in normocholesterolemic subjects.

About the NIHN

National Institute of Health and Nutrition (NIHN) was established in 1920 as a nutrition institute. With a history of over 87 years, the institute made a significant contribution for nutritional improvement of the nation.

Tracing back its history, at the Great Kanto Earthquake in 1923, all the staffs were involved in the emergency relief activities for the victims, including food distribution and water fetching. At the end of World War II, the institute conducted a food consumption survey to examine the amount of nutrient intake. Later, these skills were well utilized for the National Nutrition Survey conducted under the direction of GHQ. By which, the basic data for the food distribution program were extracted, so that Japanese people were able to overcome the serious postwar food shortage.

In 1947, the institute was renamed to “National Institute of Nutrition (NIN)” and moved to Toyama in Shinjuku, which was regarded as the restarting point of the institute. Since then, the institute has been working on various researches over the years, and one of the main missions was to provide evidence to establish and revise the recommended dietary allowances (current “Dietary Reference Intakes”) and to implement annual National Nutrition Surveys (current “National Health and Nutrition Survey”). In 1989, the institute was again renamed from NIN to “National Institute of Health and Nutrition”. We have been working on a broad range of health promotion researches, encompassing physical activity in

addition to nutrition and diet, so as to formulate the dietary, exercise and resting guidelines essential for health promotion and also to establish the food with health claims system.

In this way, the NIHN has been undertaking, as the only institute in the field of health and nutrition in Japan, the researches that would contribute to improvement of health and well-beings of the nation.

In 2001, the NIHN became an incorporated administrative agency, where we would work toward the practical researches on health and nutrition, as an open research institute with international network based on the history/tradition accumulated over the years. Furthermore, we will step up our efforts to disseminate correct knowledge on health and nutrition for the nation, and also to provide the appropriate evidences for the registered dietitians who actively work at the local authorities, health centers, hospitals and schools etc.



History

1920	Nutrition Institute was established in the Ministry of Home Affairs (Director-General: Dr. Tadasu Saiki)
1921	Moved to a new facility in Kagomachi, Koichikawa
1938	Following establishment of the Ministry of Health and Welfare, the jurisdiction was transferred from the Ministry of Home Affairs to the Ministry of Health and Welfare.
1947	Renamed National Institute of Nutrition
1948	Moved to 1 Toyama-cho, Shinjuku
1989	Renamed National Institute of Health and Nutrition
1992	Moved to the Toyama branch office (current location) of the Ministry of Health and Welfare
2001	Following establishment of the Ministry of Health, Labour and Welfare, the jurisdiction was transferred from the Ministry of Health and Welfare to the Ministry of Health, Labour and Welfare.
2001	Became an incorporated administrative agency

Topics

What is NR (nutritional representative), certified by the NIHN?

Nobuo Yoshiike

Director, Center for Collaboration and Partnership

Recently, the situation surrounding health foods is more and more complicated, which becomes one of the significant social issues. There are so many “so called” health foods in the market; “Food for Specified Health Uses (FOSHU)” certified by the Ministry of Health, Labour and Welfare based on the solid scientific evidences, the ones which have vague data only, and the ones which have apparently no health effects. In order to prove the effects of food on health, the scientifically and strictly confirmed data from the randomized control trials on human are required. In practice, however, there are also foods that are highly advertised as “health food”, because animal studies showed the positive effect, even though the animals were fed a lot of amount that human can never take. In addition, you may commonly observe the sales promotion based on the consumers’ talk of their experiences. Since there are also foods with dubious health effects or the ones that even exert negative effects or the ones with drug substances, the situation has become more and more serious.

Under this circumstance, our institute established a system to certify a specialist on health food as “Nutritional Representative (NR)” in 2003. This system aims to qualify the specialists who can provide the information that the consumers actually require from a fully scientific point of view, based on the relevant laws/systems and social ethic. So far, the examination was undertaken three times, by which about 1,900 persons obtained the qualification of “NR”. The examination includes preventive medicine, behavioral science, pathology and epidemiology, in addition to dietetics and

nutrition. Since “NR” is expected to make scientific judgment under various circumstances, they need to acquire wide-ranging knowledge including the effects of each food component, food labeling and international trend of relevant laws/systems. It is therefore quite challenging to become the “NR”. Nevertheless, there are as many as 2,000 NRs with such a high-level knowledge, who work at pharmacy, supermarkets, food companies, governmental offices in the health sector and hospitals etc. It is a significant first step for protecting health of the Japanese that NR started to work in the above mentioned various fields. It is further expected that the number of NR will increase so that the correct information on health foods and appropriate advice toward health promotion can be closely provided to you.

If you would like to receive advice from an NR or if you are interested in obtaining the qualification of NR, please visit our website (<http://www.nih.go.jp/eiken/index.html> : information on NR is available in Japanese only) or the website by NR association (<http://nr4u.net> : Japanese only).

