

Chapter 1

Preventing and Treating Disease with Nutrition



Abstract In 1976, the author posted a “Nutrition Consultation Room” sign in a corner of St. Marianna University Hospital. Because non-communicable diseases result from incorrect eating habits, their prevention and treatment first require improved nutrition and diet. At that time, expectations for the development of new drugs were high, and only a few patients visited the counseling room.

However, as he continued to teach enthusiastically, the effects of the diet appeared and the number of patients visiting the room increased. In recognition of the results, the national government has also begun to allow nutritional guidance fees within the public medical insurance system.

The first reason I chose nutrition was because I knew “preventive medicine”. Doctors who treat illness are certainly noble professions, but I thought that the profession to create a society where people do not get sick is even more valuable

At university, he began researching vitamin B₆. With a deficiency of only one vitamin, the rat developed fatty liver and oily skin, gradually losing weight and dying. He thought I had to inform many people about the importance of this nutrition.

Today, many people in the world are suffering from hunger and obesity, and solving malnutrition is the greatest challenge for humankind. However, Japan solved the postwar nutritional deficiency, suppressed the westernization of diet after high economic growth, and created a longevity nation. Why did Japan succeed in eradicating the double burden of malnutrition?

The author, who played a central role in the movement, unravels the mystery.

Keywords Preventive medicine · Tokushima University in School of Medicine · Vitamin B₆ deficiency · Nutrition consultation room · Lifestyle-related diseases · Fee for nutritional dietary guidance

1.1 Establishment of the “Nutrition Consultation Room”

1.1.1 Launch of the “Nutrition Consultation Room”

In April 1976, I put up a signboard for a “Nutrition Consultation Room” in a corner of the outpatient department of St. Marianna University Hospital. This was at a time when the concept of adult diseases was changing to that of lifestyle-related diseases. If diseases were caused by inappropriate dietary habits, the first step to prevent or treat them was to improve dietary habits, and that was why we created the Nutrition Consultation Room. This was the first attempt of its kind in Japan. It was not that the hospital administrators and doctors were particularly understanding, but the deputy director of the hospital, who was also the head of the nutrition department at the time, somehow listened to my headstrong opinions and allowed me to borrow a part of his room.

At that time, hypertension, diabetes, and arteriosclerosis, which were on the rise among the Japanese population, were called “adult diseases” because they occurred mainly in adulthood. In other words, they were thought to be diseases that inevitably occur with aging. As blood vessels age, arteriosclerosis tends to occur, and the important issue was to reduce the increase in blood sugar, cholesterol, animal fat, and blood pressure. The development of drugs to reduce these factors was in full swing, and the reason for visiting a university hospital was to receive the latest drugs.

Sure enough, we opened a “Nutrition Consultation Room,” but no patients came to the room. Occasionally, I was approached and asked, “Where is the ophthalmology department?” The “Nutrition Consultation Room” had turned into what is now called a “general information room”. The location was convenient, and at that time, it was rare to find a “consultation room” in a hospital, so people seemed to think that they could consult us about anything.

One day, a doctor of internal medicine came to the office.

“It’s a nice room. What are you planning to do here?”

Indeed, it was a splendid half-room borrowed from the office of the deputy medical director. Partly because I felt I had to be emphatic, I quickly responded, “I’m trying to cure illness with nutrition and diets”.

“Boy, if food could cure disease, doctors would have no trouble!”

He left laughing. I will never forget that doctor’s words and the look on his face. When I think about it now, this may have been the beginning of the long “journey of nutrition” that followed, with the banner “Let’s prevent and treat diseases with the power of nutrition”. At the time, such a banner was thought to be nothing more than a fantasy for those who knew nothing about medicine or medical treatment. It was a time when adult diseases such as diabetes, hypertension, and arteriosclerosis were on the rise, and medicine was focused on developing new drugs for them.

It was a lonely beginning. However, there were still patients who visited the “Nutrition Consultation Room”. The patients who came to our office were enthusiasts of the so-called “OO health method” and the “XX diet method”, who followed a certain food or diet method. They were forced to buy expensive health foods, and

some of them suffered from nutritional deficiency due to their extreme diets. I made an effort to listen to all the followers and hear them out. By doing this, I learned a lot.

1.1.2 Extension of Nutrition Counseling

About half a year after the opening, requests for nutritional advice began to come in little by little from cardiologists and doctors treating diabetes who had become close friends of mine. Since the patients who came to the room were very important to us, I spent a good deal of time with each patient.

Because I had to achieve results through diet therapy at all costs, every day, I began to write a “patient diary” of the day’s consultations. Why didn’t the patient follow the instructions? Was it lack of knowledge? Lack of awareness? Lack of motivation? Was the diet itself wrong?

Every day was a series of reflections and innovations. Doctors could prescribe drugs as a method of treatment, but I could not be effective unless patients believed my stories and improved their diet.

At that time, nutrition in Japan was just emerging from the nutritional deficiency caused by food shortages, and the purpose of nutritional guidance was to provide general nutritional knowledge, adjustment of the nutrients to be taken, and dissemination of appropriate dishes and menus. There were no textbooks or reference books to provide individualized nutritional counseling for patients with different diseases or conditions. Nevertheless, research on adult diseases and nutrition was beginning; new findings were new to patients and physicians were interested in them. However, this method did not motivate patients to come to the clinic more than once, and nutritional consultations ended after the first visit. I read a lot of books on nutritional guidance and counseling in Europe and the United States, and in the midst of groping in the dark, I developed my own method of nutritional guidance that could be applied to individual patients.

Fortunately, the number of patients began to increase thanks to our efforts. Several doctors told me that their patients’ blood glucose and blood pressure control improved when they were sent to the nutrition consultation room, and rumors began to circulate among patients.

I have a patient I’ll never forget.

Mr. K, a 55-year-old man, had been visiting the hospital for diabetes, hypertension, dyslipidemia, and chronic gastritis for many years and had been taking many sorts of medicine. When he started to take dietary therapy, the effects of the therapy began to appear, his medications could be decreased, and his physical condition improved. Mr. K was the owner of a bathhouse. He sat on the manager’s bench and gave health advice to his neighbors, and he knew the shape he was in.

Gradually, the number of patients coming to the hospital increased, but diet therapy was still a minor part of their lives. One day, when I consulted with the hospital director, he advised me to participate actively in mass media. This is what is now called public relations. In 1983, NHK (Japan Broadcasting Corporation),

encouraged by Dr. Yoshio Ikeda of Jikei Medical University, produced a program to promote proper diet. I gave regular nutritional counseling to 10 obese middle-aged and elderly patients and followed the patients' daily lives for 6 months in a documentary style. The daily lives of those who had to go on a diet were vividly televised, and the program was well worth watching. Looking back on it now, it was the first diet experience program. All the participants succeeded in losing weight, and their blood sugar, blood pressure, neutral fat, cholesterol, and other test values improved.

These cases were used as a reference, and in 1978, the fee for nutritional dietary guidance by a dietitian was approved as a medical fee item for the first time. At that time, the fee was only 5 points (50 Japanese yen:50 cents US) for nearly 1 h of work and was said to be not even enough to pay for a coffee. RD. Kiku Morikawa, who was the former president of the Dietitians' Association, told me that he was encouraged by Dr. Taro Takemi, a former president of the Medical Association, who told him, "Although the fee is low, it is important to make a start, and it will eventually go up, so please be patient." At present, the first time to visit for a consultation is 260 points(24 USD) for 30 min, and from the second time on, it is 200 points for 15 min.

1.2 Why Did I Choose Nutrition?

One's high school days.

It was when I was in high school that I became interested in nutrition. I was born in a place called Hanaoka in Kudamatsu City (下松市), Yamaguchi Prefecture (山口県), and grew up there until high school. Hanaoka (花岡) is an inn town that developed around a gate in front of Hanaoka Hachiman Shrine (花岡八幡宮), which was built in 709, after a sacred object was brought there from Usa Hachiman Shrine (宇佐八幡宮) in Oita Prefecture (大分県). Our house was about 1300 years old, and we are told that it was transferred with the sacred object, which is so old that it makes us feel faint. (Photo 1.1).

At present, this area is home to "Akaibo (關伽井) Temple", which has a multi-purpose pagoda that is a national treasure, and "Houshouji (法静寺) Temple", which has recently become famous for a strange festival called "Fox Bride (狐の嫁入り)", and the shrine and temple were my childhood playground.

One day, when I was preparing for a university entrance examination, I received an invitation from the chief priest of "Houshouji Temple" to attend a sermon. A Sermon means a religious talk and is often part of a religious service. Since many of my relatives were doctors, I somehow intended to pursue a career in medicine, so I attended. The lecturer that day was a doctor of psychosomatic medicine at Kyushu University School of Medicine, and I heard the word "preventive medicine" for the



Photo 1.1 Hanaoka, Kudamatsu City, Yamaguchi Prefecture, which is depicted in the picture scroll of an intangible cultural property. (Inside the circle: Nakamura family in 1797)

first time. He said, “Doctors who treat diseases certainly have a noble profession, but what is even greater is doctors who create a society in which people do not become ill.”

“I was fascinated by these words.”

1.2.1 University Days

Determined to study medicine that would prevent illness, I entered the Department of Nutrition at the University of Tokushima Medical School in 1968. (Photo 1.2) The Department of Nutrition is internationally renowned as a research and educational institution for nutrition associated with a medical school and is said to be the Mecca of clinical nutrition. However, when I entered the Department of Nutrition 50 years ago, it was an obscure university, with a mixed group of students who had lost their dreams of becoming doctors or pharmacists, or who had mistakenly entered the Department of Nutrition instead of the Department of Home Economics, and it was unclear what they would study or what their professions would be. Some of my classmates dreamed of becoming chefs and entered the school mistakenly thinking that a national culinary school had been established. Although they were in medical school, they were not going to become doctors or chefs. Furthermore, during their time at the school, none of the faculty members ever told them about the significance or social role of the profession of dietitian or nutritionist.



Photo 1.2 University of Tokushima Medical School

The Department of Nutrition was established by Dr. Keizo Kodama, who was appointed President of the University of Tokushima after serving as Dean of the Faculty of Medicine at the University of Tokyo, with the aim of establishing a human-centered nutrition science based on medical science, as opposed to the food nutrition science that was being studied mainly in domestic science and agriculture at the time. This was a reform that was ahead of its time, as the university was free from nutritional deficiency caused by food shortages and the adverse effects of the westernization of the diet were beginning to occur. The faculty members who came together were all excellent researchers; however, although they had academic interests, they were not interested in the practice of nutrition.

When I consulted with my professor about wanting to work at a hospital before graduation, he told me, “This university is not the place to prepare such professionals”. Indeed, the content of the lectures and the curriculum centered on physiology, biochemistry, and clinical medicine, and the university was a training school for nutrition researchers. There was a large, significant disconnect between the education and research at the university and the training of nutritionists. In class, I listened to lectures on physiology, anatomy, and what was even more difficult, biochemistry, while in the hospital kitchen, I spent all day peeling onions and slicing cabbage. As I looked at the piles of shredded cabbage, I thought that the education and research at the university and the work in the field were so unrelated that education at the Department of Nutrition was somehow out of whack.

When I think about it now, at that time, nutrition itself did not yet have an academic system that could form a single department, its role in society was unclear, and its reputation was low, and each faculty member was simply looking at nutrition from the specialized field in which he had been trained. Because the researchers were working strictly from their individual perspectives, the concept of “nutrition” was immature and incomplete, and the value of contributing this knowledge and skill to society and the nature of professional work were not the subject of discussion. Many of the students were educated without knowing what they would be doing after graduation, so they asked themselves, “What kind of professionals or professions are we? What is Nutrition?”.

In 2014, the Faculty of Medicine at the University of Tokushima reorganized its existing Department of Nutrition into the Department of Medical Nutrition, aiming to train researchers and educators who are responsible for basic research and education in nutrition, and, at the same time, to train dietitians who can work in cooperation with doctors in clinical areas.

1.3 A Nutrient Deficiency Experiment

A deficiency of just one nutrient can kill people.

I became a senior at university and began to write my graduation thesis. For my seminar, I joined the “Practical Nutrition Class” because I was admired Professor Toshiro Sato. Professor Sato was the grandson of Dr. Shibasaburo Kitazato (北里柴三郎), the first person to introduce medical statistics to Japan, and was a man with a clear mind who was engaged in international research. In class, I took nutritional statistics but hardly knew what it was about. I joined a laboratory, but I had to travel overseas a lot, so I did not have many opportunities to receive guidance. The only thing I remember vividly is that I went to the public health center to pick up a dog for an experiment and helped with the dissection experiment. Therefore, for my graduation thesis, I started research on vitamin B₆ deficiency under the guidance of then Assistant Professor Michiko Okada.

The laboratory rats were kept on a diet deficient in vitamin B₆ and dissected periodically. When the rats were deficient in the vitamin, they developed fatty liver and oily skin, gradually began to lose weight, and finally died. Why would vitamin B₆, a component related to amino acid transferase, be associated with abnormal lipid metabolism? Why does it accumulate in the liver while body fat decreases in the whole body? Solving this mystery was the theme of the study. One doctor asked us whether such a fatty liver could be produced only by vitamin deficiency. It was said that it is not easy to make healthy rats sick, and they cannot produce fatty liver unless they are given something poisonous or a lot of alcohol.

Deficiency of a single nutrient, a not-so-major vitamin, is enough to make one very sick and eventually kill one. As I stood in front of the emaciated and dying rats in the dimly lit animal room, “I have learned that this is a terrible thing and I have to let a lot of people know about this”.

At that time, the problem of postwar undernourishment was being solved by economic development, westernization of the diet, and improvements in food distribution, and there was a strong tendency to believe that nutritional problems could be easily solved if only the economy would develop and people would eat nutritious food. One day, a graduate came to the laboratory and asked me what I was researching. I replied with a joke, “I like the Beatles, so I’m researching B6, or vitamin B₆.” He laughed at me and said, “Even if you study such things, no one eats while thinking about nutrition.” There was a great dissociation between the study of nutrition and its practice, and nutrition research was thought to be like “sashimi no tsuma” a study that was merely a social decoration. In other words, it was thought that malnutrition could be solved by economic prosperity without the need for nutritional research.

1.3.1 A Fateful Encounter and Employment

During the summer vacation of my fourth year, I went to Tokyo on the advice of my older brother (中村隆征) and met a person who changed my life at a small sushi restaurant (Hana Sushi) in a corner of Kabukicho (歌舞伎町). That person was Dr. Hirohisa Arai (新居裕久), the director of Shinjuku Clinic near Seibu Shinjuku Station. He was the first person in Japan to call for “medical nutrition as the source of diets” and gave lectures while cooking with a pot. Although we had never met before, we talked about nutrition, health, food and cooking, and we agreed that the future of medicine is not drugs but nutrition.

After graduation, I moved to Tokyo to work as Dr. Arai’s assistant. He said, “You don’t understand clinical medicine, so I will teach you; I don’t understand nutrition, so I want you to teach me.” My role was to collect and prepare materials for Dr. Arai’s lectures and books, and to check his manuscripts and lectures. I often visited the library of Keio University Hospital near Yotsuya Station. I found it interesting to look up the latest nutritional research and the history of nutrition, and I was able to think about this and that, and the time I spent in the library was truly blissful.

Because the clinic was located in the middle of Kabukicho, which is said to be the most prosperous area in Japan, the clinic hours were from 3:00 pm to 8:00 pm. During that time, I observed medical treatment, observed how to conduct a clinical examination, and gave nutritional counseling to patients with obesity, thinness, and adult-onset diseases. At that time, there was no precedent in the medical field for providing nutritional counseling to individuals, so I was truly groping in the dark. I had to develop a lot of things on my own, such as how to proceed with consultations, how to ask questions, and how to describe the medical records, and I visited various hospitals whenever I had the chance. What I found helpful in the descriptions in medical records was the medical records from the Department of Psychiatry. I was surprised to see that the conversations between doctors and patients were described, and I learned that the conversations between dietitians and patients are important for

understanding patients and creating guidance policies. The 3 years I spent in the middle of Kabukicho, which is like a crucible where many different kinds of people live, allowed me to understand the difficulty and fascination of understanding human beings.

1.4 Training at Akasaka Szechuan Restaurant and Helping at the National Institute of Nutrition

1.4.1 Training in Chinese Cuisine

One day, Dr. Arai made a proposal. He wanted me to train as a cook at the Akasaka Szechuan Restaurant (赤坂四川飯店), which was run by Mr. Chen Jianmin (陳建民), who had introduced Mapo Tofu (麻婆豆腐) to Japan and appeared on NHK's "Today's Cooking". I was asked to become his apprentice. The restaurant was a training ground for chefs working at Szechuan restaurants throughout Japan, and talented chefs gathered from all over the country. For six months without pay, I was allowed to experience the cycle of washing dishes, pots and pans, and cutting boards, food preparation, seasoning, cooking and serving. Since work at the restaurant continued until around 10:00 p.m., it was late at night before I was taught by my seniors, and I spent many days sleeping at the restaurant. I became good friends with the people I worked with, and they accepted an oddball like me and taught me until midnight. However, in fact, the only thing that Mr. Chen taught me directly was how to peel bamboo shoots. When I was peeling bamboo shoots in a corner of the corridor, he told me directly, "You peel bamboo shoots like this". A fellow cook who worked with me commented, "You should become a chef because you have good cooking skills".

Later, when I talked to Dr. Arai about it, he lumped it all together and said, "Becoming a chef is not your goal." I gave up the path of becoming a chef, but I remained close to my friends from those days.

I knew that I had to study food and cooking because people do not eat the nutrients, but eat what the ingredients are cooked with. The reason why I chose to study Chinese food was because Chinese food is based on the principle of "Yin Yang and the Five Elements (陰陽五行説)" in the selection of foods, cooking methods, and the relationship with the human body. I thought that there might be some similarity between Chinese cuisine and nutritional science because nutritional science is also classified into five kinds of nutrients. I studied Chinese medicine and medicinal herbs for a while, but there was a big gap between nutritional science, which was developed based on the elemental reduction theory of the components of food and the human body, and Oriental medicine, which classified foods based on the observation and experience of natural phenomena.

1.4.2 Helping Out at the National Institute of Nutrition

Another advantage of studying at the Shinjuku Clinic was that the National Institute of Nutrition (now the National Institute of Biomedical Research and Nutrition) was nearby and I had access to it. At that time, I was assisting the research of Dr. Shinjiro Suzuki (鈴木慎二郎) director of the institute, who was studying the relationship between nutrition and exercise for the first time. At that time, there was little basic research on obesity, and the relationship between diet and exercise was an important issue. I was responsible for the nutritional management, menu preparation, and cooking for four subjects. I prepared the meals. This experience gave me a firsthand understanding of the difficulties of human intervention research on nutrition. I became a frequent visitor to the National Institute of Nutrition, and was able to get to know many professors at the institute, which was very helpful in broadening my personal relationships.

1.5 I'm Glad I Learned About Nutrition

In 1975, I was approached by St. Marianna University Hospital. Shigeyoshi Saishoji, deputy director of the hospital, asked me if I would work with him to reform the hospital nutrition department. I worked hard to reform the hospital food service and establish a nutrition counseling room, and provided nutrition counseling to about 50,000 people until 2003, when the hospital was transferred to Kanagawa Prefectural University of Health and Welfare.

Ten years after I left the clinical field and moved to the educational field, I had an unexpected experience in the summer of that year. When I gave a lecture at the Yokosuka Labor Hall, a woman who wanted to meet me came to my dressing room after the lecture. She told me this story.

“I have finally gotten to meet RD. Nakamura. Actually, my husband was taken care of at the nutritional consultation room of St. Marianna University Hospital 25 years ago. After his stomach cancer surgery, he thought he needed to nourish himself in order to recover his strength quickly, so he tried to eat, but he could not eat as he wanted. His sense of taste had changed, he had no appetite, and since his stomach had been removed, he couldn't eat much at a time. At that time, RD. Nakamura helped us.”

Her husband had passed away 2 years before, but he always looked forward to going to his nutritional consultations.

“At last, I have met you. Before he died, my husband left a request in his will that I must go to him to pay my respects. Now I can go to my husband with peace of mind”.

It was a moment when I felt that the youthful dream of a young man who 50 years ago in a dimly animal room at my alma mater had realized the importance of nutrition and felt that he had to teach this to many people had finally been rewarded. I thought from the bottom of my heart that I was truly happy that I had chosen “nutrition” as my life’s goal.

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