

Practice for Health Care and Health Promotion in a rural mountainous region

— from the standpoint of the central hospital
in a remote area —

Johana Municipal Hospital Toyama, Japan

MASAAKI TERANAKA, M. D.

Japan has now become the country with the world's longest life expectancy. Among aged Japanese, malignancy, cerebrovascular accident and ischemic heart disease are the major causes of their death. This is not limited to problems of people's health care or medical treatment. Since most of the medical treatment costs for the aged are borne by the government, this has resulted in a heavy burden on the state budget, and attention and effort is being paid to not only the prevention of adult diseases but people's health promotion.

In the rural region of Gokayama, with the highest aging index, it was a commonly held belief that a person must "keep working until he fell ill.", and until recently, there were many aged people who sincerely believed that "When the doctor comes, it's time to die.". Also the national road is often closed in the winter due to deep snow. It was not long ago that people had to face the harsh reality under such weather and road conditions, where an emergency patient died before he/she had finally been taken to the nearest hospital.

As one of the medical doctors working in Johana Municipal Hospital, located at the foot of the mountains, a curious thought crossed my mind, which was: "How do the people in the mountainous area live through the long harsh winter?" With this question in mind, ten years ago in January 1978, I went up the river by boat in the snow with a few hospital workers, and got into the village. We carried a tonometer and an electrocardiograph in backpacks, and conducted the first medical examination in winter in the village.

Later, in 1979, with the guidance of village and prefectural authorities, our hospital was designated as a central hospital of this remote area, and a substantial medical examination program was started for the purpose of preventing diseases, health care and health promotion.

Through these steady activities, however doctors began to be delegated to serve as village doctors at the two clinics in this region in 1980. In addition, a medical examination system for local residents was established in the whole rural region. Later in 1983, the Aged People's Health Act was enacted, and medical examinations for residents are becoming

ing the central pillar of the health care programs of the local government.

This region has one of the highest levels of aged people in the prefecture. Yet even now the medical care supply system in winter is inadequate together with insufficient anti-snow damage and depopulation measures. Considering such conditions, the implementation of health promotion programs is becoming even more important and we see it as important subject to which the hospital needs to give serious attention.

For health care in the region, currently the Health Promotion Council is playing a major role in making a total plan and awareness activities. The council members consist of representatives of the public health center, Welfare division of the village office, doctors and residents selected from a wide perspective.

Regarding the content of the hospital's work for the past few years in support of health care and health promotion of the local residents, this can be largely divided into the following four approaches: (A) Medical care, (B) Welfare, (C) Prevention of Diseases and Health Promotion, (D) Enlightenment and Education of concept of health and hygiene.

In the field of medical care (A), the hospital has been engaged in sharing of touring diagnosis and treatment in no-doctor areas by delegating doctors, and the health care of residents, through the such activities as school and industrial doctors, with a sense of responsibility and mission of the village doctor. In addition, we gave advice in the establishment of an emergency care system, which includes a well equipped ambulance with a resuscitation unit and life saving devices. Also by installing an electrocardiograph telefacsimile system at the clinics, it has become possible to conduct a smooth integrated performance between those clinics and the hospital.

In the field of welfare (B), the hospital sent a medical examination team to visit houses with aged people, who were unable to come to any place for a medical examination. For bed-ridden patients at home, we set up an assignment system by the delegating doctors to clarify the share of responsibility, and provide a service to give detailed guidance in daily treatment and nursing.

In the field of disease prevention and health promotion (C), the village administration office staff in charge of residents' health, and public health nurses from the village meet at the hospital once a year to discuss the contents and procedure of the medical examination required. The purpose is to improve the medical examination started as one of the measures for circulatory disease, including cerebral apoplexy, hypertension, and ischemic cardiac disease, which had been common in the region.

Recently, more than fifty times of daytime medical examinations have been performed through one year on approximately 2300 participants among 2800 residents in the region, the receiving rate being more than 80%.

In addition to the daytime service of medical examinations, for working women with a low medical examination receiving rate, an evening medical examination service together with a cancer medical examination service was started at the village in 1981. It resulted

in an increased medical examination receiving rate among women.

For an improved level of service, the number of examinees is limited to 30-40 at a time, and allocated sufficient time for questions by the doctor and health guidance.

When making a medical examination program, it is important to plan the program, while keeping in mind the daily life style and actual conditions of the residents. From the viewpoint of health care throughout a person's life, the hospital started to conduct blood pressure, urinalysis, and electrocardiograph examinations of elementary and junior high school children eight years ago. The purpose is to get children to take prevention measures for adult diseases, including diet guidance, starting from school age children from the standpoint of enlightening children.

Also, as shown in this slide; according to an analysis on causes of death conducted for the past ten years on the village, mortality caused by circulatory diseases against total deaths has reduced by 30 percent compared to 10 years ago, and is leveling off at some 30 percent. In addition, the proportion of patients suffering from hypertension has also reduced in the past nine years from 30 percent to below 20 percent. For these two indexes to show an improvement with a higher aged society in the region where aging has progressed, appears to be an unignorable achievement in preventive health care.

All the data on the content of medical examinations and guidance are entered in the individual's health control slip, and kept it in the health control books in the hospital and village office, after being classified according to family and area. This slide shows the shelf where the health control books are kept, among which the health control books can demonstrate a great performance in the sense of providing important informations in the clinical field, as ongoing data easily accessible whenever required, such as when a patient requiring treatment comes into hospital.

The data on the books is also inputted into the computer, software which contains a clarification system developed by the hospital for the purpose of preventing adult disease. In this system, the risk factor related to adult diseases are extracted and given a value, and according to the total score, patients are divided into high risk groups for each disease.

In the fourth field of enlightenment and education of the concept of health promotion (D), the hospital is planning to analyze this high risk group regarding, "What can be improved in his daily life?", "In what ways can the living environment be improved in the family, generation and area?", so that thorough health guidance can be given by a doctor in a man-to-man system.

This slide shows annual trend of high risk scores of an individual in each year. The hospital will warn this case because his some total scores increase year by year, and suggest concrete measures for improvements in life style, and be able to try to get the individual to make an effort to reduce the score. It will then result in a reduced score for the person in the following year, and his ranking as a high risk could fall, which would have a great impact in raising awareness of his own health and its promotion. Thus com-

puter-aided health control according to high risk group clarification is expected to provide measures that each individual can seriously work on while they are still healthy.

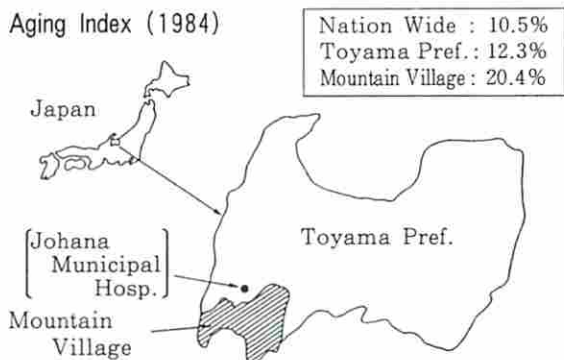
Actually, we consider that, it is important to actively participate and support village events such as the health festival. The awareness of the population on health will be raised by doctors and nurses talking with village residents, or the holding of free-of-charge medical examinations and lectures in the region. By so doing, as doctors and the central hospital of a remote area, we intend to support the creation of an environment where each resident seriously considers ; "What should be done to keep healthy and continue working?", rather than, "Keep working until you fall ill. ", and put these measures into practice in daily life.

Summary

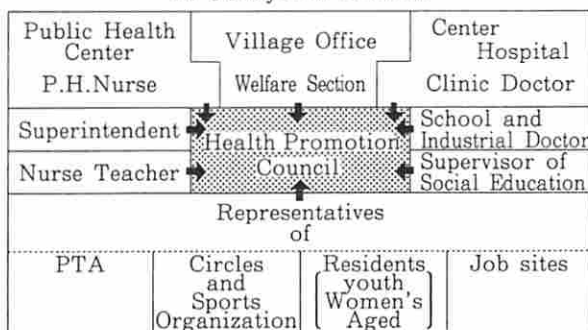
Health care and health promotion in a region should be progressively active, where an improved living environment for local residents is consistently and continuously targeted. What is most important in order to do this, is the fundamental attitude of doctors, public health nurses and other staff of the hospital to actively take part in health care of local residents, requesting residents to be responsible regarding their own health, and give individual guidance with sincerity. It is also an essential factor for health care and health promotion to take advantage of a solidarity consciousness which is a mutual assistance and friendship between residents, that still exists in a remote area like Gokayama. We consider the important issue given to the central hospital in a remote region is to work together with local residents, while supporting local community's characteristics and residents' attitude from the public stance, in order to globally conduct medical care entrusted by residents, improved welfare, continuous health care, health promotion, and disease prevention activities.

References

- 1) Annual health statistics, No. 25 (1973) —No. 39 (1987), Welfare Section of Toyama Prefecture
- 2) Life of Toga village and one-day general health examination, Masaaki Teranaka, et al., Toyama Agricultural and Rural Medicine, 12 : 95, 1981
- 3) Statistics of cause of death over the past ten years and future examination of residents in remote areas, Masaaki Teranaka, Toyama Agricultural and Rural Medicine, 16 : 33, 1985
- 4) Outcome of health examination and future implementation of health examination in the mountain region of Gokayama, Masayo Yonemichi, The Workshop of 13th Annual Meeting of Hokuriku Three Prefectural Medical Association, 15. 1980
- 5) Summary of six years of electrocardiograph examinations of school children Harumi Sugiyama, et al, Toyama Agricultural and Rural Medicine, 18 : 20, 1987



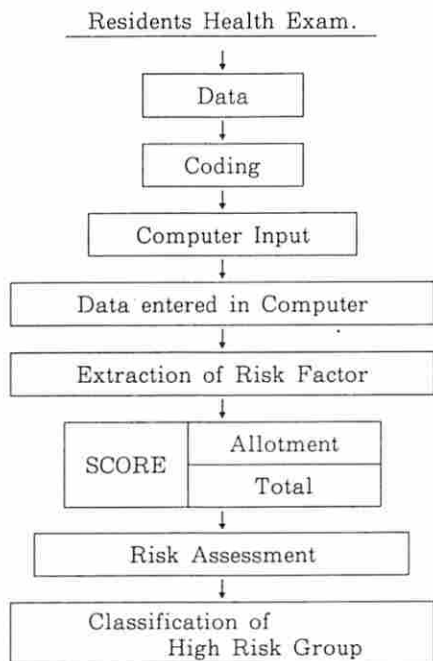
Overall Planning of Health Promotion Project in Gokayama District



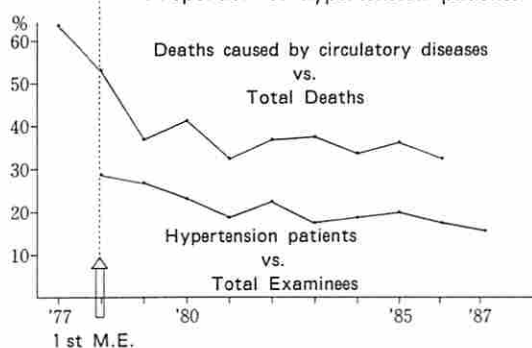
Practice for Health Care and Health Promotion

- A. Medical**
1. Delegation of Doctor to Clinic
 2. Touring Medical Care provided in No-doctor Area
 3. Support System for Emergency Ambulance, ECG transmission by telefax
 4. Clinic-Hospital Tie-up by Telefacsimile Joint use of Patient's Records
- B. Welfare**
1. Aged People's Measures
Touring medical examination
 2. Measures for bed-ridden Patients at Home
 3. Doctor's territory system
- C. Disease Prevention and Health Care**
1. Medical Examination
Adult disease (Daytime Service)
Women's disease (Evening Service)
School children
One-day general examination
 2. Health Control Book Keeping
 3. Statistical analysis for clarification of high risk groups for adult disease
- D. Enlightenment and Education**
1. A new impact in awareness of one's own health promotion
 2. Support Health Festival
 3. Health Counseling
 4. Free-of-Charge Medical Exam.
 5. Lectures for Health Promotion

Application of Medical Exam. Data



Mortality in circulatory diseases and Proportion of hypertension patients



Annual Trend of High-risk Scores Ex.) Case : F.M.male, 65y.o.

