

## “Rural Areas in Japan and Primary Health Care”

During the past several years, a catchphrase “Primary Health Care” has widely come to be used in Japan as indicating one particular phase of medical care. This phenomenon may reflect a habitual trend of Japanese to jump at an imported word of a foreign origin. For myself, however, I cannot but wonder if there is any difference between this phrase and the just “Health Care” to which we have been used.

In 1975, the W.H.O. made an appeal to “Primary Health Care” which was nothing but a movement to protect and develop the health of individual nations of the world. If I quote the Preface; it says,

“In order to make Primary Health Care universally accessible in the community as quickly as possible, maximum community and individual self-reliance for health development are essential. To attain such self-reliance requires full community participation in the planning, organization and management of Primary Health Care.”

and again it emphasizes as follows,

“Since Primary Health Care is an integral part both of the country’s health system and of overall economic and social development, without which it is bound to fail, it has to be coordinated on a national basis with the other levels of the health system as well as with the other sectors that contribute to a country’s total development strategy.”

If I am allowed to interpret this Preface in my own words, I am convinced that each country is recommended to develop its own medical care in order to protect the health of its people.

In Japan, since 1945, incidentally the year the World War II ended, a systematic movement to protect the health of the nation has been originated and, since then, we have been engaged in the promotion of the health care

in rural areas. In 1952, The Japan Association of Rural Medicine was first founded by some actual practitioners of this movement. In various parts of Japan, we collaborators have practiced what is now called "Health Care," and our movement has contributed to the social welfare and achieved a great accomplishment without undergoing any outside restraint or coercion.

During these 30 years, however, a great change has occurred in the rural areas of Japan owing to the rapid economic development. This economic development was again due to the increase of the industrial production and this increase has led to the expansion of export. Japan is now one of the biggest trading countries in the world and has earned a huge amount of foreign currencies. On the other hand, the working population of agriculture has been absorbed by the expanding manufacturing enterprises and resulted in the extraordinary decrease of farm-hands.

In 1978, the ratio of Japanese farmers who made agriculture the main and only job was 12.5%, and that of the first-class side-job farmers (who depend on agriculture for more than half of their income) was 17.8%, and that of the second-class side-job farmers (who depend upon agriculture for less than half of their income) was 69.7%. These figures show that very small proportion of farmers could earn their livelihood from agriculture alone.

When I closely examine the rural situation in Toyama Prefecture in 1978, out of 73,070 farming households, the main and only farming households was 2,400(3.3%), the first-class side-job farming households 8.2%, and the second-class side-job farming households 88.5% respectively. These figures show the highest ratio of side-job farming households in Japan and, adding one more words in terms of comment, the type of agriculture prevailing in this part is the single crop water rice plant.

Next, the average annual income of farming households in Japan is ¥4,200,000 (\$16,880, setting exchange rate as \$1 to ¥250), whereas in Toyama Prefecture this figure rises up to ¥4,850,000(\$19,450). However, the average annual income from farming is ¥1,200,000(\$4,500, 28%) in case of Japan as a whole and ¥890,000(\$3,600, 18%) in case of Toyama Prefecture. These figures reflect the fact that the arable land in Japan is only 18% of the whole area. When we compare the farming area for one person in Japan with that of several other countries (Table 1), we realize how

small it is. Consequently Japan imports from abroad 25% of its food to be consumed. Under these conditions, Japanese farming villages may disappear in the long run, you may suppose. However, they do not. They do exist and will survive.

Table 1 Comparison with Japan and other countries of farming areas(per one person)

Japan	1
U. S. A.	1 0 0
Canada	1 2 4
Italy	1 0
France	1 4
Australia	9 0

Originally the characteristics of the Japanese farming villages were the natural and social communities centering around agriculture. They had inherited the historical traditions of the feudal system and held the direct contact of human beings, and engaged in the heirloom farming uniting all the household members as one unit. They were closely knit by blood-ties, exclusively closed to others, and in a word a community with a conservative type of thinking. However, owing to the modernization of Japanese industry, farming villages have virtually been transformed, partly being swallowed up by growing cities and partly because of the internal collapse of farming families. Therefore, our concept about the farming areas has to be altered now.

In this connection, we are compelled to construct our new concept of farming villages and then proceed to our health care programs, well-balanced in physical, mental, and social factors.

Now I want to introduce to you some of the activities we have practiced based upon this principle during the past several years.

First, let me present to you anemia among farmer's women. In recent years, the blood-donation campaign has become popular in Japan and the blood test of a great number of healthy persons is being carried on. However, the following fact is noticed as a serious problem. It is that some women donators are unqualified because of anemia, and among these anemia patients farmer's women are predominant in number. This is partly because, malehands having been absorbed by various manufacturing as a con-

sequence of the high-speed economic development, the heavy burden of farming activities have fallen on the shoulders of farmer's women, and also because of unbalance nutrition and other factors. So we have continued a wide-scale examination of blood components of the farmer's women.

In 1972, with the number of examinees 1,006, that of control 85, we got the result shown on Table 2; both blood-cell and Hemoglobin(Hb) of farmer's women are less than those of control and 247 women (24.6%) were diagnosed as anemia. To these anemia patients, the second examination was given

Table 2 Mean Value of Anemia of Farmer's Women(1972)

	Farmer's Women 1006			Control 85		
	Mean Value	Anemia		Mean Value	Anemia	
		Persons	%		Persons	%
Red blood cell	397.5 ± 39.8*	319	31.7 *	376.2 ± 43.4	52	61.2
Hematocrit	37.4 ± 3.90	200	19.9	37.9 ± 3.54	11	13.0
Hemoglobin(Hb)	11.9 ± 1.61	462	45.9 *	13.3 ± 1.53	11	13.0

Red blood cell × 10<sup>4</sup>, Hematocrit %, Hb g/dl

P < 0.05

in February and September of 1973, and anemia was found to have become much remedied. (Table 3) This result was ascribed to the proper health

Table 3 Secondary Examination of Anemia of Farmer's Women (1973)

	Persons	Mean Value (Feb.)	Mean Value (June)
Red blood cell × 10 <sup>4</sup>	155	371.3 ± 37.6	405.0 ± 35.0
Hematocrit %	153	32.8 ± 3.35	35.7 ± 3.35
Hb g/dl	155	9.9 ± 1.27	11.0 ± 1.62
Serum iron γ/dl	152		78.7 ± 28.0

guidance against anemia. During the next two years, 1974 and 1975, we continued follow-up surveys with the result of much improvement, but we also found a characteristic fact that the number of women anemia patients is larger in June and July (the busiest farming season) than in February each year. (Table 4, 5). This fact shows that farmer's women patients of anemia are of disadvantage to non-farming women in both respects of labor and nutrition. Based upon these successful results, we have been carrying on a strong health guidance in order to preserve the health of the agriculture area. (Table 6)

Table 4 Third Examination of Anemia of Farmer's Women (1974, July)

	Mean Value of Farmer's Women	Control
Persons	425	45
Red blood cell $\times 10^4$	$391.4 \pm 36.0$	$399.5 \pm 31.8$
Hematocrit %	$37.1 \pm 3.52$ *	$38.4 \pm 2.61$
Hb g/dl	$12.5 \pm 1.39$	$13.1 \pm 1.02$
Serum iron $\gamma$ /dl	$82.2 \pm 33.2$	$91.2 \pm 30.8$
Serum protein g/dl		$7.4 \pm 0.39$

\*  $p < 0.05$ 

Table 5 Fourth Examination of Anemia of Farmer's Women (1975, Feb.)

	Mean Value of Farmer's Women	Control
Persons	377	41
Red blood cell $\times 10^4$	$419.6 \pm 36.8$	$420.0 \pm 35.6$
Hematocrit %	$38.5 \pm 3.50$	$39.0 \pm 3.08$
Hb g/dl	$13.5 \pm 1.58$	$13.6 \pm 1.36$
Serum iron $\gamma$ /dl	$89.9 \pm 41.4$	$91.1 \pm 33.2$
Serum proteing/dl	$7.6 \pm 0.47$	$7.5 \pm 0.39$

Table 6 Transition of Yearly Percentage of Anemia  
(Farmer's Women % / Controls %)

	1972 (June)	1973 (June)	1974 (Feb.)	1974 (July)	1975 (Feb.)
Red blood cell ( $35 \times 10^4 <$ )	$33.3$ / * $61.2$	$22.1$ / $17.3$	$17.3$ / $13.0$	$38.4$ / $28.9$	$13.0$ / $19.5$
Hematocrit ( $35\% <$ )	$21.5$ / $13.0$	$22.5$ / $15.4$	$11.2$ / * $0$	$21.6$ / * $4.4$	$13.0$ / $4.9$
Hb ( $12 \text{g/dl} <$ )	$61.6$ / * $13.0$	$53.0$ / $59.6$	$21.0$ / * $6.5$	$28.5$ / * $8.9$	$14.1$ / $4.9$
Serum iron ( $70 \text{dl} <$ )		$33.8$ / $29.4$	$7.2$ / * $0$	$9.9$ / * $0$	$5.6$ / $2.4$
Serum protein ( $6.5 \text{g/dl} <$ )		$7.0$ / $2.0$	$0.3$ / $0$	$3.3$ / $0$	$0$ / $0$

\*  $p < 0.05$ 

Secondly comes diabetes as our present target. In Japan, diabetes has become very popular. In farming areas as well, this disease has increased due to the change of living environment and diet habit. Diabetes gives little symptoms of disease at its initial stage and, once it has worsened, is hard to be cured and liable to be accompanied by other diseases. Consequently, initial discovery and proper guidance of living conditions of the

patients are of utmost importance.

In 1976, we started a survey and research of the actual situation of diabetes in the farming villages. A collective test with Wet-Pak-Hirata's method was carried out to 25,697 examinees.

As is shown on Table 7, 6.3% of the examinees showed positive reaction to glycosuria at the first screening test. In 1977, blood sugar of these

Group Examination of Glycosuria  
Table 7 First Screening Test (1976)

	Persons	Glycosuria Positive	%
Male	7,245	874	12.1
Female	18,451	744	4.0
Total	25,696	1,618	6.3

positive reaction persons were examined by 50g GTT, with the result that, out of 616 examinees, type of diabetes was 32% and type of boundary 36.0% respectively, one-third of the positive reaction persons being diagnosed as diabetes. In other words, two-thirds of the examinees showed positive reaction of glycosuria only once. Proper cure and diet guidance have been applied to these patients and close observation has been carried on. (Table 8)

Table 8 Second Test for Persons of Glycosuria Positive  
50 gGTT (Blood sugar) (1977)

	Persons	Type of Diabetes	%	Type of Boundary	%
Male	300	80	26.7	123	41.0
Female	316	117	37.2	100	31.0
Total	616	197	32.0	223	36.2

I have shown you only two examples of health management in rural areas, illustrating as concretely as possible what we have actually practiced in Toyama Prefecture. Now our present subject of discussion is "Primary Health Care" and again I want to emphasize that the method we take up should be determined by the different conditions of each country and area.

As one therapist of otorhinolaryngology, some forty years ago, I treated a number of past-cure patients at a hospital in a rural area and acutely realized the importance of health management. Later, at the Medical

Faculty of the University, this impression became deeper and stronger while I was performing my duties of training students, doing research and curing patients. Fortunately, with the aid of a number of able collaborators, I have so far tackled with the problem of health in rural areas. However, when we think of "Primary Health Care," we cannot but notice the existence of many other difficult problems which are beyond the control of health protection and medical treatment.

We cannot disregard such problems as politics, economy and social welfare. Internationally, these problems have to be solved with the aid and collaboration of U.N., UNISEF, and WHO, but as a realistic primary step, each country and each region has to resort to the best method of solution most suited to its own country or region. We, on our part, taking advantage of the characteristics of this northern Prefecture of Japan with the population of 1,100,000, are conducting various survey and research works on health management, fulfilling the needs of the inhabitants and pushing forward a number of measures in close connection with politics, economy and social welfare of the region.

Today the new catchword "Primary Health Care" is under discussion, but I want to emphasize again that already in 1952, the year when Japan Association of Rural Medicine was founded, we were putting into effect a practical movement based upon this basic idea, now close my speech.

Thank you very much for your kind attention.