

MEDICAL CARE FOR CHINA'S MILLIONS

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NOTE

The articles in this supplement were selected from *China Reconstructs* over the past few years. They deal with two subjects: 1. How China has brought adequate medical and health care to the countryside where 80 percent of its population lives. 2. How medical workers have studied, analyzed and improved China's centuries of medical experience and combined it with western medicine and pharmacology in an attempt to create a new unified system in clinical and research work.

— Editors

RADICAL CHANGES IN RURAL MEDICAL WORK

CHUNG WEN

TREMENDOUS changes have taken place in China's countryside since 1965 when Chairman Mao called on the nation's medical and health workers to "put the stress on the rural areas". Even after the new China came into being, doctors and hospitals had remained concentrated in the cities while in the countryside the peasants had a difficult time getting treatment.

Today the situation is different. A vast health network now reaches into every production brigade in China, including remote mountain regions, offshore islands and frontier villages. Over 1,300,000 barefoot doctors — young working farmers trained to do medical work — actively push the work of preventing and treating diseases in the rural areas. Medical care is now available to China's several hundred million peasants.

Serving the Majority

In old China peasants had to go to town for treatment (which they could rarely afford). Constantly menaced by hunger and death, they could only bear illness or if seriously sick, wait for death. Floods, drought and plague were frequent, devouring countless lives every year. In 1942 cholera killed 130 in Yanghsiaochai, a village of 500 people in Anhwei province. In 1946 in a village of 46 families in Kwangsi, 72 people died of cholera and snail fever. By the time of liberation in 1949, 18 families had been wiped out by disease.

Of course medical conditions in the countryside improved considerably after liberation. Hospitals were built in every county. When

the communes were formed, each set up its own hospital. But until 1966 when the cultural revolution began, Liu Shao-chi's revisionist line in medical and health work gave scant attention to the rural areas and concentrated most of the doctors, funds and supplies in the cities. Rural health work developed too slowly. Many areas lacked doctors and medicines.

In June 1965 Chairman Mao criticized this situation and demanded that medical and health work put its major efforts on the rural areas.

A revolutionary change in the rural health picture required many different measures. More funds, supplies and medical personnel were allotted to the county and commune hospitals. Great numbers of city medical workers were sent to the rural areas in mobile teams. This speeded up development but it was still inadequate for the needs of the vast rural population.

During the cultural revolution two measures were adopted which provided a better way of dealing with the problem. One was the barefoot doctor (so called because while they worked barefooted in the rice paddies they were also medical workers). The other was the cooperative medical care system. Now almost all of the production brigades in the country set up their own cooperative medical care systems. A total of 1,300,000 barefoot doctors have been trained. Moreover, at the lowest unit of the communes — the production teams — 3,600,000 health workers and midwives who do regular farm work, give first aid, treat ordinary ailments and pay attention to prevention of diseases.

Mutual-help Medical Care

The peasants, with the help of Communist Party leadership, created their cooperative medical care systems themselves with the sure knowledge that their collective mutual aid would work. Membership is voluntary. Funds come from an annual payment which runs to about one yuan per member. Allotments from the brigade's public welfare fund are added. This money maintains the brigade clinic or health station and covers all or part of the cost of treatment and medicines. When clinic barefoot doctors cannot handle a case, the patient is transferred to a commune, county or city hospital.

With cooperative medical care, a nationwide health network in keeping with China's present economic conditions reached into all

rural areas. This assured commune members prompt treatment and spread knowledge about disease prevention among the masses.

Hsiyang county in Shansi province, for example, setting up its co-op medical care systems in 1969, brought measles, dysentery, flu, enteritis and other epidemic diseases under control. By 1973 it cut the incidence of ordinary and frequently-occurring illnesses 47 percent over the year 1966. In 1974 incidence was cut another 43 percent.

For Yu Chang-sheng, a member of the Shangchin brigade in the Ningsia Hui Autonomous Region, cooperative medical care actually meant the difference between life and death. In 1965, before the system was set up, his child came down with pneumonia and died on the way to the county hospital. In 1973 when his wife was struck with heart disease and lung complications, she could not be moved. A barefoot doctor from his brigade cooperative health station came to treat her every day, soon bringing the disease under control. "She took enough herbal medicines to fill a basket," Yu said. "Without our co-op medical care system I couldn't have paid for them even if I had sold half my property — and she'd be dead today."

Before the peasants of the Toufutaitzu brigade in Shantung province set up their medical co-op, people sometimes had to ask the brigade or state bank for loans to pay for the cost of treatment. Now no one has to do this. With one yuan from each member per year and an allotment from the brigade's welfare fund, the cost of treatment and medicines is free.

Chinese herbal medicines are an important part of cooperative medical care. The collecting and cultivation of Chinese herbs are developing into a mass movement. Working together, barefoot doctors, health workers and commune members build their own pharmacies where herbs are compounded into pills, pellets, powders and ointments. This reduces medical costs, lightens commune members' financial burden and improves their co-op medical care system. It is also in line with China's policy of combining traditional with western medicine.

New-type Doctors

Barefoot doctors are a new and vital part of China's medical and health service. Working (often actually barefoot) with their fellow commune members in the fields, they are part of the masses and know

their medical problems and ailments well. Contrary to the old tradition that "doctors never go out looking for sick people", barefoot doctors visit the brigade members' homes. They strive to work in the communist spirit of Dr. Norman Bethune, the Canadian doctor who served in China in the war against Japanese aggression with what Chairman Mao called an "utter devotion to others without any thought of self". They answer emergency calls at any time of the day or night regardless of the distance or weather.

Barefoot doctors are selected from young commune members with a high proletarian political level and a good general knowledge. They are trained in courses of six months to two years given by health departments or medical units. As they practice they return at intervals for more advanced training. They work hard to improve their professional skill. Today there are two or three barefoot doctors in most brigades in China's rural areas.

"Prevention first", stressed by Chairman Mao, is one of the main tasks of the barefoot doctors. They teach hygiene and give preventive inoculations regularly. Coordinating with brigade and team leaders, they launch sanitation campaigns to wipe out mosquitoes, flies and other pests which transmit diseases. They mobilize the people to reconstruct wells, latrines and animal enclosures and keep them in good condition. This has sharply cut the incidence of infectious diseases.

Efforts to teach hygiene, scientific knowledge and family planning have helped the peasants discard habits and beliefs inherited from the old society under centuries of reactionary rule. Among these were unhygienic habits, the ignorant practice of going to witch doctors and the superstitious beliefs that "life and death are determined by Fate" and "many sons mean much happiness". New health habits and beliefs are forming. Today poor hygiene is considered a disgrace.

Barefoot doctors try hard to learn from local herb-doctors, peasants who cultivate herbs and doctors of traditional Chinese medicine. Analyzing this rich experience, they have done much to combine traditional and western medicine in treatment, making full use of herbal medicines, acupuncture and moxibustion. For example, in the last few years barefoot doctors in Lungpen commune in Kiangsu province have collected over 500 local folk remedies and ways of treating illness, now using 200 of them with good results.

City Doctors Go Rural

The fact that great numbers of city medical personnel have gone to serve in rural areas is another new feature of China's medical and health work. In the past few years several hundred thousand doctors, specialists, professors and other medical workers have gone to settle down and work in county and commune hospitals. Mobile teams go for periods of six months to two years to frontier regions, minority nationality communities and villages. People's Liberation Army medical units also send mobile teams to help develop health work in the countryside.

In the spirit of the Red Army on the Long March, medical teams travel from village to village, climbing snow-clad mountains and crossing badlands to bring better health care to the local people. One Peking team in Kansu province trekked to the Badin Jaran Desert, visited all 42 families in this 8,000-square-kilometer area and gave treatment and physical checkups. Deeply moved, one old herdsman told them, "If we searched the whole area for a doctor in the old society, we would never find one. But today Chairman Mao sends doctors to this remote place to look for *us!*"

What do city medical workers get out of serving in the countryside? Universally they are inspired by the fine example set by the peasants — their hard work for the collective and socialism. Many team members feel the necessity of learning from them and serving the people wholeheartedly.

The mobile teams not only work in prevention and treatment but help the local medical personnel raise their level, consolidate the co-op medical care system and train more barefoot doctors. Shanghai teams have trained more than 3,000 in various provinces since 1975. A Shanghai team in Yunnan province also conducts advanced courses in medicine, surgery, pediatrics, obstetrics and gynecology.

The Party at all levels from the province to the communes and brigades has strengthened its leadership in rural health work. Improving rural medical service is an important part of building a socialist countryside in China. Through overall planning and correct organization, all health departments continue to put the stress on the rural areas with more and more personnel, equipment and financing. This will bring increasingly greater changes in the countryside.

(From *China Reconstructs* February 1976)

A BAREFOOT DOCTOR DESCRIBES HIS WORK

CHIN HSIANG-KUAN

OUR COMMUNE is in the mountains of west Hupeh province 1,000 meters above sea level. Houses are far apart and the roads poor. It used to be very difficult for the peasants to get medical care.

In 1962 I was chosen by the brigade Communist Party branch to study medicine for a year from an old Chinese traditional doctor. In 1965 I studied again, this time in a ten-month advanced course run by the county. I had only had three years of school but I made up my mind to overcome every difficulty to learn medicine.

We Set Up a Medical Co-op

When the cultural revolution began in 1966, our brigade members began thinking about Chairman Mao's call to put the stress on the rural areas in medical and health work. We discussed how we could change our backward medical care picture. Someone said, "We get rid of poverty with agricultural cooperation and a collective economy, why can't we get rid of poor medical care the same way — with cooperative organization and pooling our strength?" I thought a lot about this. I talked it over with some of the other peasants and we suggested to the Party branch that our brigade set up its own health center on a co-op basis.

"How much will it cost?" asked the Party branch secretary.

We reviewed the number of brigade members, the incidence of diseases and the probable medical expenses for a year and figured it would cost 300 yuan to start with some common medicines and drugs. This would be 0.40 yuan per person. I would be the barefoot doctor

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but that, of course, would cost nothing because my income comes from my regular part in the collective farming.

Everybody supported the suggestion and we got our 300 yuan in a few days. By the end of the year we had set up our center and were giving treatment with only 0.05 yuan as registration fee and all medicines free. I took care of the patients and did farm work in between times.

There are six brigades in our commune. Because our cooperative medical care system seemed to work well, they too wanted to try it. The commune Party committee thought it was a good way to help solve the medical care problem in the countryside and called a meeting of brigade leaders and members to discuss it. The other five brigades began to set up their own medical co-ops the next spring. In addition to the members' annual payment, each brigade allots a certain sum as a subsidy from its welfare fund.

Now the Struggle

All new things challenge the old, and our new-born medical co-op promptly ran into opposition. On the one hand there were some witch doctors who were used to swindling money out of the peasants because we could hardly ever get regular doctors up into our remote mountain area. On the other hand there were some superstitious peasants who still believed in going to the witch doctors.

After she had her child, for example, Fan Tzu-hsiang in our brigade ran a high temperature because of an infection. I treated her and she began to improve. But a witch doctor told her she was sick because she had offended the "King of Hades" by yelling during delivery. Only prayers and burning incense would cure her. He gave her some "magic water" to drink — for which he got four yuan.

Fan took the "magic water" and suddenly got worse. Furious, I hurried to her house that night. In a careful checkup I found a pelvic abscess which could lead to septicemia. I gave her a large injection of antibiotics and some Chinese herbal medicine. My treatment had been in time and she recovered quickly. There was both gratitude and shame in her voice when she said, "Hsiang-kuan, I've given you so much trouble. From now on I'll never be fooled by a witch doctor again."

Only a few months after the medical co-op had been adopted in the whole commune, some members of one brigade withdrew. We tried to get at the reason from the Marxist point of view of class struggle. We discovered that Chin Chao-hsiang, a rich peasant element who was also a witch doctor, was craftily inciting the peasants against our co-op with such remarks as "It's not right to pay if you're not sick" and "It's exploitation to pay without getting any medicine." The

members of his brigade found he had 30 tools used in his trickery. When the commune Party committee called a public meeting to expose his fraud, the members who had withdrawn joined again.

Learning in Practice

A barefoot doctor must first of all have the serve-the-people spirit and constantly improve his skill. Chairman Mao teaches that real knowledge comes from practice and since my medical knowledge is limited, I try to practice and learn at the same time. I continue to study traditional Chinese medicine, including acupuncture, and use every opportunity to learn modern medicine from experienced doctors.

One day Mother Fan, 66, whose son was away in the army, became very ill. I picked up my medical kit and went to her house. Her abdomen bloated, she was in acute pain and had not moved her bowels for quite a few days. I feared some kind of intestinal obstruction, but to take her across the mountains to the county hospital would be dangerous. I decided I had to treat her at home.

I consulted several medical books, looking for some way to handle an intestinal obstruction. Finally I remembered a medicine described in the *Compendium of Materia Medica** said to cure such conditions. I asked some traditional Chinese doctors about this medicine but none of them had ever used it. Not wanting to endanger Mother Fan, I tested it on myself. It produced a bowel movement without any side effects, so I prepared the medicine and gave it to her. Within 24 hours her bowels had cleared and the pain disappeared.

I had been treating Chen Chun-ying, a woman in her forties who had had multiple neuritis for 13 years and been unable to work. Over a period of 70 treatments, I had gradually worked out the natural laws governing her sickness. In traditional Chinese medicine we say, "Treat the symptoms in emergencies and treat the cause gradually." I treated both the cause and the symptoms with acupuncture, traditional Chinese and western medicine. She was well in three months.

Being Economical

When we had too many patients, our health center would run in the red. To cut down on the cost of medicines and drugs, in 1967 we began to collect and process medicinal herbs ourselves. One of my uncles had learned something about medicinal herbs in the old society. He took us into the mountains to collect herbs, explaining the characteristics and medical properties of each plant. We learned

* A classic on Chinese pharmacology compiled by Li Shih-chen (1518-1593) during the Ming dynasty.

to recognize 200 kinds and began using 120 herbal prescriptions in the health center. Our total cost for medicines dropped.

Production teams in our commune usually stretch six or seven kilometers and families live scattered far apart. This made it difficult for the brigade health center to serve them well. So I got the members of No. 5 team to start collecting and cultivating medicinal herbs and set up a simple local pharmacy. I trained a team member to handle minor ailments and injuries and be in charge.

The commune Party committee liked this idea and soon each of the 49 production teams in the commune had its own herb garden, pharmacy and health worker. This helped our cooperative medical care network to reach down to our smallest units.

Today there are 19 barefoot doctors and 98 health workers in the commune. Because the members collect, grow and process medicinal herbs, our health centers have not gone into the red for the past eight years.

Doing Regular Farm Work

I'm a member of a production team and work in the fields like everyone else, except when I have to treat patients. I am a peasant. If I didn't do farm work, I would lose the good qualities of the peasants. Taking part in the collective's work and sharing the good and the bad with my neighbors helps me do my medical work better.

Helping out in the fields of No. 5 production team a few years ago, I learned that its harvests and the members' incomes were lower than others. One of the reasons was too many people at home sick. Every day I noted down the number who were sick. Because the team is situated on a slope facing north with little sunshine, many had rheumatic arthritis. I treated it with traditional Chinese medicine and acupuncture. Eleven of thirteen patients who had not been able to work recovered enough to go back to their jobs. This led the team to set up a simple pharmacy and train a health worker. As the members' health improved, both their farm production and their living standard went up.

I am very satisfied to be one of the more than a million barefoot doctors doing their part to build socialism in our country.

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HEALTH WORK IN THE TACHAI BRIGADE

Staff Reporter

VISITORS to the model Tachai brigade are impressed by its achievements in changing nature — terraced fields, hilltop reservoirs, irrigation canals and manmade level land. They are also impressed by the row upon row of stone caves topped with brick houses in the village, so unique in style that they look like two-storied housing projects. From Tiger Head Hill one sees a neat mountain town instead of a village.

In the old society the village was poor, dilapidated and filthy. The hills were eroded and bare. Rubbish was everywhere. Exploiters, hunger and disease took many lives.

Today the pens, pigsties, manure pits and family latrines are gone. Clean tree-lined streets are flanked by cave dwellings with latticed doors and windows. The simply furnished rooms are neat and decorated in good taste. A nine-year school, kindergarten, hospital, evening political school and library are well located. Tachai is a model village in a new socialist countryside.

Building a New Village

After liberation, particularly after the villagers organized their agricultural co-op, the peasants followed the leadership of their Communist Party branch, fought against the class enemies, capitalism and revisionism, and carried out a thoroughgoing socialist revolution according to Chairman Mao's revolutionary line. By depending on their own collective economic strength and initiative, they developed socialist agriculture and changed old Tachai into a flourishing brigade. Their revolution transformed the denuded hills, tamed flash floods,

greatly improved living and sanitary conditions, and changed their spirit, customs and habits.

In the past, all but a few peasants lived in dark, damp caves dug in the hillsides. They began to build stone caves and brick houses in 1963 after a disastrous flood destroyed 70 percent of their dwellings.

That summer the entire county saw more water than it had seen in a century. A week of steady rain not only crumbled the caves and houses in the village but seriously damaged the crops in 90 percent of Tachai's fields. The peasants refused state aid and, confident in their own united strength, rebuilt their terraced fields and propped up the flattened crops. Their hard work resulted in the same high harvest as the year before.

Even as they fought to restore farm production, the peasants began rebuilding their homes. "Rebuild the fields in the daytime and the village at night" was their slogan. Under gaslights some moved stones, bricks and mortar while others laid the foundations and built the walls. Several months of hard work produced the first group of new caves and houses. In three years all the brigade members moved into new quarters.

Today there are 260 stone caves and 550 rooms in the brick houses, almost triple the number in the old days. Everyone has more living space.

A riverbed through the village that used to roar with water during the rainy season now runs in a 290-meter stone conduit under a paved street.

Healthy Environment

Eliminating backward, unsanitary conditions was part of rebuilding their village.

The Tachai area has dry weather nine years out of ten. In the old days the few shallow wells and cisterns in the village could not supply enough drinking water. It had to be carried in from miles away. Building irrigation canals as part of their permanent improvement of the land gave the peasants experience which helped them solve their drinking-water problem. They sank their first deep well in 1964, built a water tower the next year and installed a tap for every row of cave-houses — running water for the first time in their history. Later they built a bigger water tower. Today an underground

water project brings more and better water for the whole village from a commune several miles away.

Building their new village, the peasants also solved the problem of household sewage, animal manure and rubbish dumps, the breeding grounds of mosquitoes, flies and disease.

In the old Tachai each family had its own latrine and manure pit. Now there are seven public toilets which the peasants clean and disinfect regularly. Pigsties, sheds and pens have been moved outside the village, where livestock feeds on field straw and stalks, and manure is closer to where it is needed. This saves labor and greatly improves the sanitary situation. Here health work is closely linked with farm production.

Family refuse and ashes are no longer dumped anywhere but taken to a place outside the village, then carted to an accumulation ground to be used in making compost. Manure heaps are sealed with clay and fermented into better fertilizer — a process which also kills disease-causing bacteria.

In the old society the small-peasant economy centered on individual families. They couldn't farm better or improve their surroundings. Today the socialist approach to agriculture has not only increased their harvests but steadily improved the people's health.

Co-op Medical Care

Before the cultural revolution, the rural areas lacked both doctors and medicines. It was hard for peasants to get medical treatment or pay the expense. After the agricultural co-op was set up, Tachai's Party branch attached great importance to changing this situation. Improved health work would enable the peasants to take a more active part in socialist revolution and construction, and in developing the collective economy and in strengthening the dictatorship of the proletariat.

As production and the collective economy grew and individual income and the public accumulation fund increased, the Tachai peasants used part of this fund to help those families which could not meet their medical bills. After the commune was formed, the brigade systematically increased its accumulation fund and was able to set up a free nursery, kindergarten and school. It also provided more funds for medical aid where needed.

After the cultural revolution began in 1966, Tachai set up a co-operative medical care system as other brigades and communes were doing all over China. Its funds come partly from an allotment from the brigade's welfare fund, the rest being paid *pro rata* by the members. On this basis a peasant gets free medical care including medicines.

Last year a commune member had a serious operation in the commune hospital. Hospital and medical expenses amounted to over 200 yuan, all paid by the co-op medical fund. The system lightens expenses for members, narrows the gap between high and lower-income families, and promotes the communist spirit of all giving a helping hand to a family in need.

New Ideas and Habits

Tachai's health work is part of its struggle against old ideas and habits. For centuries reactionary feudal rulers had perpetuated their rule by poisoning the people with superstition. This left backward customs and diehard elements in the rural areas.

Chairman Mao had called on the masses to struggle against their own illiteracy, superstitions and unhygienic habits. Tachai's Party branch now mobilized the brigade members for this ideological struggle.

An example of how ideology affects health was the feudal idea that "life and death is determined by Heaven" and the superstition that when one was sick he must "seek a fortune teller and pray to the gods". Long struggle uprooted such ideas in Tachai. Gone are the unhygienic habits of eating unclean food. Today the peasants believe in science and hygiene. The village is divided into three parts, each with a group leader, to plan and supervise public hygiene. Early every morning each family has someone out to sweep the street. Homes are kept spic and span, and personal habits are healthy.

After liberation the peasants did not understand why they had to get preventive inoculations. The typical belief was that "you die when it's your time, you get sick if it's your fate and you get nothing but pain from injections". Today nobody is missing when inoculations are given. When health workers give them herbal brews to prevent seasonal epidemics, everybody takes them voluntarily.

Improved sanitary conditions, the elimination of unhygienic habits and a "prevention first" policy have long ago brought such diseases as measles, meningitis, encephalitis B, diphtheria and typhoid under control. Tuberculosis was common in Tachai in the old society. It was wiped out after liberation.

Uninformed of what to do during menstruation, pregnancy and after delivery, many women of China were in poor health, mothers died young and infant mortality was high.

Today the brigade pays special attention to women's health. Like the men, they work according to their health and physical characteristics. During menstruation and after childbirth, they do lighter work. With better health the women are now an important part of the collective's farming and reconstruction of the land. Most couples practice birth control.

Commune Hospital

The commune used to have only a clinic which could not handle surgery. After the cultural revolution began the clinic was expanded into a hospital and moved to the Tachai brigade. It has 30 beds, a laboratory, operating room, X-ray department and pharmacy.

The 18 staff members do their jobs in the Tachai spirit of self-reliance and hard work, each one learning several kinds of skill. Doctors treating outpatients also take care of ward patients. Many can treat patients with both traditional Chinese medicine and western medicine. They take turns going out to treat patients at home or in the fields. Everyone does farm work regularly every year to learn from the peasants and keep close ties with them.

An important task of the hospital is to continue training the barefoot doctors. The commune's barefoot doctors come to the hospital two days a month to medical lectures and each spends three months in training and clinical practice under the hospital staff. The barefoot doctors' political level and professional proficiency rises steadily and this makes them increasingly important in the medical and health work of the Tachai countryside.

(From *China Reconstructs* May 1976)

HERBAL MEDICINES A BOON TO CO-OP MEDICAL CARE

Staff Reporters

IT was harvest time in the Golden Bridge brigade in Kiangsu province's Yicheng county on the north bank of the Yangtze. While other brigade members were picking cotton and reaping mid-season rice its barefoot doctors and health workers were harvesting their medicinal herbs in a special plot near the brigade clinic. The young men and women were gathering seeds from the Job's Tears plant — used in Chinese medicine as a stimulant to the digestive system — cultivating other herbs and turning up the soil in preparation for planting lovage, an herb used to treat gynecological disorders.

In the brigade clinic the barefoot doctor on duty was asking a woman in her sixties about her illness. It was diagnosed as an infection of the urinary tract. Instead of antibiotics, the doctor prescribed six kinds of medicinal herbs to be brewed and taken orally, and some vitamin C.

As a member of the brigade's cooperative health plan, the only fee the patient paid was 0.05 yuan for registration. She got her medicine free of charge at the pharmacy next door to the clinic.

In addition to the usual stock of drugs and ampules, inside the ten-square-meter pharmacy were two cabinets of small drawers, each labeled with the name of the herb or other Chinese medicine it contained — 86 kinds of western drugs and more than 360 Chinese medicinal ingredients. A large part of these had been gathered or grown by the brigade itself. This is practically all the herbal medicine they need, so they do not have to purchase much elsewhere.

They compound some of these into over 50 varieties of pellets, pills, powders and ointments. Gathering, growing and processing herbal medicine has been a mass activity since the brigade set up its cooperative medical care system in November 1968.

The Golden Bridge brigade has three barefoot doctors serving its 260 families — 1,036 people living in ten production teams. The barefoot doctors are all from peasant families. They have had junior or senior middle school education and from several months to a year of medical training at the commune or county hospital. They are assisted by one or two health workers in each production team.

The Herb Garden

East of the clinic is the “garden of a hundred herbs”. The actual number is 240 varieties, grown in rotation throughout the year on the 800-square-meter plot. Some were introduced from other parts of the country, others were originally local wild plants. They include well-known flowers like the cockscomb and gladiola as well as many strange plants. The globe amaranth, with red ball-like blossoms, locally known as “Red for a Thousand Days”, is a medicine for asthma and dysentery. Another, the blackberry lily, resembles the palm of the hand. Its root is used in treating sore throat.

This garden also serves as a classroom where the barefoot doctors, health workers and other commune members learn to recognize medicinal plants and their properties. It is an experimental plot where herbs from other parts of the country are tried out before being grown in larger fields. The garden is also a natural pharmacy where fresh herbs can be picked in small quantities as they are needed.

Since 1969 the brigade has collected over 160 varieties of medicinal herbs in the hills and increased the varieties grown in their garden from eight to over 200. They have collected and grown 25 tons of herbs, most of this has been used by the brigade’s cooperative medical care system. The surplus was sold to the state pharmaceutical company, providing additional income for consolidating and developing cooperative care.

Having used Chinese herbal medicine widely for some time, the brigade members now realize what a treasure-house traditional Chinese medicine and pharmacology are. They use it with greater efficacy and are better able to combine it with western medicine in treatment.

Though retired from field work, 75-year-old Chin Teh-ching has been active in collecting wild herbs and tending the herb garden since cooperative medical care began. In his youth he had gained some experience in treating illnesses with herbs and how to make up some native prescriptions.

Every year the brigade organizes people to go to the mountains south of the Yangtze to gather herbs, many of which are not found in Golden Bridge itself. In 1969 Chin Teh-ching, in spite of his age, led four groups of young people on such expeditions. Many of the varieties now growing in the garden were brought back by him.

Reliance on the Masses

The masses play a big role in obtaining herbal medicines. Since the cooperative medical care system was an entirely new thing, the Communist Party branch kept close watch to find ways to make it work better and extend it. Many discussions among leaders and commune members made it abundantly clear that its success depended on following Chairman Mao's teachings on self-reliance and observing the principle of diligence and frugality in everything. They would have to rely on themselves to widen the sources of medicinal herbs, reduce medical costs, lessen the financial burden on the members and bring in more funds for this cooperative undertaking.

Chairman Mao had said, "Chinese medicine and pharmacology are a great treasure-house, and efforts should be made to explore them and raise them to a higher level." The leaders saw that they must rely on the masses to gather, grow and process medicinal herbs, and make traditional herbal medicine and acupuncture play their full role. As one commune member put it, "Buying medicine is like taking hay from a stack; it keeps getting smaller and smaller. But gathering our own herbs is like taking water from the Yangtze, which never runs dry."

Thus a mass movement for herbal medicine began in the spring of 1969 with support from the commune Party committee and the county health department. Exhibitions of herbs and the ingredients of local prescriptions were held and short training courses in the recognition and cultivation of the herbs were given. Old peasants were asked for their family remedies and medical personnel were invited to give instructions on prescriptions.

Large quantities of herbs began to flow in. Learning that even snake exuviae, wasp nests and pumpkin peduncles have medicinal value, the people brought them to the clinic. Five tons of all kinds of medicines were collected by the end of 1969. This brought 1,700 yuan to the co-op medical fund.

Now in addition to herbs planted on a hectare of land, some are grown by the production teams and by individuals along ridges in the fields, on slopes and in odd corners around their homes. They also raise small animals with medicinal value in ponds and cellars.

Treasures

More than 80 family prescriptions were brought out by some 20 old peasants. The barefoot doctors tried them out in clinical practice and over the years have selected and improved on 20 of them, which they use frequently with good effect. One of these, used for years in the family of Chin Teh-ching, is a treatment for local snakebite using a wild plant found in the area. It has proven very effective. Many members of the brigade still remember how, several years ago, a peasant was bitten on the foot by a poisonous snake and had to spend 18 days in the commune hospital at a cost of 27 yuan before he was well. In 1969, when a woman was bitten in the foot by a poisonous snake, a health worker applied the crushed leaves of this plant mixed with a little sugar. Three days later she was well, and the cure had cost practically nothing.

A wild plant known under the name of "rice sack" (*Amblytropis multiflora*) had long been used locally for treating mastitis. When the barefoot doctors inquired about it at a pharmaceutical college in Nanking, they learned that indeed it had a reputation for reducing inflammation. They have now cured many cases of mastitis using pills made from this plant, together with a poultice made from it.

In 1965 in the Hsiayun production team Tan Wei-kuo, 26, was bedridden for most of the year with acute arthritis in both knees. His left knee swelled up as large as a coconut. His family took him to the hospital for treatment many times, spending a total of 200 yuan, but his condition did not improve. After the cooperative medical care system was set up, its barefoot doctors and health workers tried every way to cure him. From nearby Kaoyu county they learned of a remedy made from a medicinal herb. They used it in combination with acupuncture and drawing water off the knee, coming daily to treat him.

In six months his condition vastly improved. He has had no recurrence for the last two years and now works in the fields.

About half of the clinic's cases between 1971 and 1973 were treated with medicinal herbs and acupuncture, therefore with little drain on the medical care fund.

The Golden Bridge clinic also uses medicinal herbs in its prevention and sanitation work. They use them in preventive doses for seasonal illnesses such as influenza and dysentery. During the rice-transplanting season the commune hospital provides every member with an ointment made of an herb mixed with sulphur and vaseline to prevent dermatitis caused by working in wet paddy fields. During the 1974 sanitation campaign, the brigade collected four tons of two wild plants with pesticide properties which they spread in the latrines to kill maggots. With all these measures the brigade has many fewer outbreaks of seasonal epidemics than before.

The brigade's efforts have enabled the cooperative medical care system to operate at a surplus every year since it began. This has given it funds for more treatment for 80 cases of chronic illness.

One commune member, after suffering from stomach pains for 20 years, was found to have gastric ulcers. He was sent to the commune hospital for surgery in 1974. All expenses for the operation, medicines and blood transfusions were borne by the co-op medical fund. Now he has completely recovered. In the past few years, more than 50 persons with chronic ailments such as hepatitis, hemorrhoids, varicose veins and stomach conditions have been cured. Other cases of chronic illness are being given treatment.

(From *China Reconstructs* March 1975)

MEDICAL TEAMS IN TIBET

KUO LI-HUA

UNDER the brutal serf system before liberation, medical and health work as well as all other constructive undertakings were non-existent. There were only two medical establishments in the entire region and these served only local government officials, high lamas of the monasteries and nobles.

The million serfs on the estates of these three had no warm clothing, lived perpetually half-starved and could get neither medicine nor treatment when ill. In fact, when plague raged, the serfowners would drive sick people into isolated gullies to die of hunger and exposure. Sometimes they even burned them to death.

Worse, the three kinds of estate-holders poisoned the people with religious superstition. Reactionary lamas and witch-doctors made "medicines" out of mud, the ashes of incense, even the Dalai's excrement. Disease, hunger and intolerable living conditions caused the population to decline steadily.

In 1959, under the guidance of the Party Central Committee and Chairman Mao, democratic reforms were begun in Tibet. The killer serf system was smashed. As other aspects of society began to flourish, medical and health work also developed. By 1965 medical facilities and personnel had quadrupled. During the cultural revolution, clinics were set up in every county and many communes. There were 4,000 Tibetan barefoot doctors serving in the villages and pastoral areas. All this helped to protect the health of the working people and promote farming and animal husbandry.

Though medical and health work was developing in Tibet, it was slow. The region had been backward for centuries. Roads were few and communications difficult. The Liu Shao-chi line in health work interfered with development. The shortage of doctors and medicine in Tibet was more serious than in the rest of the country's rural areas and minority nationality areas. In July 1973, the government decided to organize eight special medical teams to help Tibet develop its medical work, training of personnel and scientific research more

rapidly. The teams came from seven provinces and Shanghai, serving on a two-year basis.

For the People

When they first arrived in Tibet, the members of these teams suffered from altitude sickness. They were not used to Tibetan food, could not speak the language, didn't know how to ride horses. But they dug in to live and work with the people. They heard the liberated serfs' gruesome tales of life before liberation. They saw the great changes that had taken place since the democratic reforms and the people's enthusiasm for building socialism.

This strengthened the team members' determination to serve the liberated peasants and herdsmen wholeheartedly. Many of them saw the harder environment in Tibet as a chance to temper themselves. It was just because this was a difficult place that they had been asked to come, an honor and a mark of the people's confidence in them. Gradually the teams began to overcome their difficulties and lay the basis for their work. The eight teams were assigned to Lhasa and the Loka, Shigatse, Chamdo and Nagchhu districts. They climbed snow-capped mountains, crossed frozen rivers and pastures, going directly to the homes of peasants and herdsmen, visiting factories and mines. During their first year they gave 800,000 consultations, did 6,000 operations and saved 1,300 patients who otherwise might have died. They trained or raised the level of 1,800 medical, pharmaceutical and public health workers, including barefoot doctors, mostly Tibetans. They strengthened and improved county and commune medical and health establishments and helped set up four secondary health schools.

Doctors Sent by Chairman Mao

An 11-member detachment of the Honan team was assigned to Tsona county. Here, at an altitude of over 4,000 meters, there are snowstorms eight months of the year and padded clothing has to be worn all year. Going from one commune to another sometimes takes two days on horseback through passes at 5,000 meters. Nevertheless, the medical team treated patients even in the most remote communes and pastures.

Kalzung Yudron, a member of the Taga commune, had her baby one day in February 1974. The placenta was not expelled and bleeding was endangering her life. Fifty kilometers away, four doctors from the detachment and a doctor from the county clinic shouldered their medical kits, mounted horses and set off in a snowstorm. When they arrived, the woman was in shock from loss of blood. The placenta was attached and it was necessary to remove the uterus.

Could such an operation be done in a peasant home on an isolated mountain without special hospital equipment? What if the operation failed? They recalled Doctor Bethune's selfless devotion to others, and decided to go ahead. They planned the operation collectively and completed it before dawn. The woman was out of danger. "You *menba* (doctors) sent by Chairman Mao have saved my daughter," her father told them gratefully.

It had been thought by some that the reduced oxygen at high altitudes and poor conditions on the plateau would make major operations difficult and some even impossible. But the medical teams dared to break with this idea. Concentrating on their patients' welfare, they performed miracles under the "impossible" conditions. They did Cesarean sections and heart surgery, removed intestinal obstructions, did complicated stomach and liver operations. Doctors of the Szechuan team operated successfully on a Tibetan woman with tubercular constrictive pericarditis.

The medical teams surveyed illnesses common in Tibet, both treating and trying to establish preventive measures. The Shantung team working in the Shigatse district surveyed the incidence of cataracts. Operations on 64 patients in their own homes restored sight to people blind for years.

Training Personnel

Only rapidly increasing the number of Tibetan medical and health workers could radically change the shortage of doctors and medical service in Tibet. Thus, training was one of the teams' main tasks. Their problem was to train a group up to a definite technical level and support this core force with large numbers of barefoot doctors, midwives and other health workers.

They use many methods of training — health schools, courses to train "barefoot doctors" or raise their level, short courses in such specialties as laboratory and X-ray work, special courses for hospital personnel already working, teaching apprentices in clinical work. They set up or strengthened medical and health organizations, paying attention to those at the county level and below, thus carrying out Chairman Mao's directive to put the stress on the rural areas in medical and health work.

A detachment of the Hunan medical team worked in Chushul county near Lhasa. Using the county hospital as their base, they ran courses to raise the level of the Tibetan hospital personnel and train barefoot doctors. In ten months, for example, Phurbu, a former serf, a barefoot doctor who only knew how to give injections and prescribe certain medicines, learned the common surgical instruments and began work as a scrub nurse. Jampa Ngagwang, who didn't even know

arithmetic, now does standard laboratory tests, including determining blood types and carbon dioxide combining power.

Chushul county hospital had four rooms, six beds, ten doctors and nurses and could only treat ordinary cases. The detachment helped add 14 rooms, 25 beds, a pharmacy, a laboratory and enlarge the X-ray room. It is now a small general hospital.

The Shanghai team helped the autonomous region set up a secondary health school dealing mainly with illnesses common in the countryside. Teaching was organized on the principles of combining teaching and treatment, prevention and treatment, Chinese and western medicine, basic courses and clinical practice. This method rapidly raised the students' ability to solve actual problems. In conjunction with their study they gave 3,000 consultations and made a survey for high blood pressure, enlarged thyroid and cataracts. They learned from specimens and scientific-educational films. They collected medicinal herbs. In two months the students mastered the diagnosis and treatment of a dozen common illnesses, and gained some knowledge of examination and prevention.

The eight medical teams also did research on common and endemic illnesses on the Tibetan plateau. The Honan team, for instance, investigated and analyzed a type of enlarged thyroid in Nedong county in the Loka district, mapping out its distribution and proposing measures for its prevention and cure. In their clinical practice, teams collected material for medical research.

(From *China Reconstructs* May 1975)

HEALTH CARE FOR WOMEN AND CHILDREN

Staff Reporter

JUTUNG COUNTY on the Kiangsu province coast has done an outstanding job in health protection for women and children, who make up two-thirds of its one million inhabitants. A system including county gynecologists and pediatricians, barefoot doctors and administrative personnel in charge of women's and children's care now reaches into every commune and brigade.

Modern Midwifery

Health care for women and children in rural areas covers many aspects. One of the most important is to spread modern delivery methods. After liberation, though the county trained a considerable number of modern midwives, they still could not meet the needs of the rapid development of health work.

During the cultural revolution, when Chairman Mao asked medical and health organizations to put the stress on the rural areas, the county trained 1,600 barefoot doctors of whom more than half were women. Aside from learning to cure rural common diseases, the women doctors studied modern methods of midwifery. In addition, young women who did not withdraw from normal production were trained to be midwives.

Today many of them know how to correct the position of the fetus and what to do in difficult situations such as breech presentations or when the infant is in danger of asphyxiation. They give expectant mothers prenatal checkups and regularly visit the mothers after childbirth to give them pointers on how to take care of themselves and their infants.

Yang Tsui-ping, 34, is one of these newly trained people. The tales she heard after she started her studies in 1968 — of the many

women who died in childbirth in the old society, the many who became chronic invalids, the countless babies who died at birth or in infancy — made her feel a great responsibility. She studied hard and tried to emulate Dr. Norman Bethune's spirit of "utter devotion to others without any thought of self".

In 1972 the infant of a peasant woman named Chu Kuei-fang was in danger of asphyxiation because of the long delivery. Yang Tsui-ping learned that the woman's firstborn had died this way. Determined that the tragedy would not be repeated, she gave the child mouth-to-mouth resuscitation, then with artificial respiration and acupuncture saved its life.

Over the past seven years Yang Tsui-ping has not lost one of the 234 babies she has delivered, nor had a single case of puerperal fever or infant tetanus. Today such a record is not exceptional in Jutung county. For several years there have been no cases of puerperal fever or infant tetanus, and infant mortality has dropped sharply.

Mass Examinations

Every year since 1970 a gynecological examination of the county's 150,000 married women has been carried out by the county and commune hospitals and barefoot doctors. Before spring work begins teams composed of a gynecologist-obstetrician and several barefoot doctors make these examinations in every commune brigade. Commune, brigade and women's leaders help with publicity and organization.

Health problems are thus discovered early and have a better chance of cure. Since 1974 the examination has included a test for cervical cancer. Such cases are sent to the county or city hospital.

Chung Mei-ying, 45, a member of the Chanan commune's brigade No. 11, had been ailing since her twenties and unable to do farm work for more than ten years. Before the cultural revolution she had gone several times to hospitals in the cities but showed no marked improvement. She lost all hope of getting well.

The 1970 checkup diagnosed her case as cervical erosion, a trichomonas vaginitis infection and other problems. Two of the brigade's new barefoot doctors, with guidance from the commune hospital, made pills and compounded Chinese medicinal herbs for oral and external use. They came every day for three months to treat her until she was well. Her medical expenses were borne by the cooperative medical care system.

Today Chung Mei-ying is again doing farm work. She often compares her situation with that of her mother before liberation. Illness had made life a torture for her but the family could not afford proper medical care and could only have her looked at by a witch doctor who charged less. "What a difference today under Chairman Mao's revolutionary line for health work!" says Chung Mei-ying. "The barefoot doctors are our true friends."

Chung Mei-ying's is only one of many such cases in the county. In 1970, 78 percent of the women examined were found to have some kind of illness. Treatment and further checkups brought this down to 24 percent. As health has improved women's work attendance has risen from 75 percent in 1970 to 90 percent for the past three years.

Efforts are made to combine traditional Chinese medicine with western medicine and to utilize herbs that grow locally. This has made it possible to treat a larger number of patients, improved efficacy of treatment and kept down costs to the cooperative medical care system.

One of the tasks of the barefoot doctors is educating the women on preventive measures, in line with Chairman Mao's policy of prevention first. They also provide production team leaders with information on the women's physical condition to guide them in assigning work.

Healthy Children

All children receive BCG inoculations against tuberculosis at birth. Beginning at two months, the child gets various immunizations. Booster shots are given until the age of seven. All pre-school children in the county have a physical examination by the barefoot doctors once a year. A card for each child is kept in the brigade clinics on which they record findings of the checkups, immunizations, history of infectious diseases the child has had and his common ailments and the treatment. Every time an epidemic disease threatens, the barefoot doctors prepare a preventive herbal brew for the children.

Year-round kindergartens and nurseries in the county provide better conditions for child health protection.

The first to set up year-round kindergartens in all its brigades was the Changsha commune. It did this in 1971 after it began stressing learning from Tachai, the Shansi province brigade which is a national agricultural model. The kindergarten enables more women

to take part in farm work. The county Communist Party committee later recommended that all communes do the same.

Today there are 3,100 kindergartens in the county, taking in 86 percent of the children from three to seven. There are also 2,000 nurseries for children from one to three. Total enrollment in kindergartens and nurseries is 90,000. Both are free of charge. Young women with a good political level and some schooling, including some city middle school graduates who have come to work in the countryside, are chosen as teachers and given a short period of training. They usually supervise about 20 children. They teach them good health habits, singing, dancing, sports and revolutionary ideas as well as the beginnings of reading and writing. Morning checkups and regular reports on possible epidemics help prevent illness. The barefoot doctors visit the kindergartens and nurseries regularly to give advice on health work.

The barefoot doctors, particularly the women, have become the backbone of child health work in the countryside. Realizing the importance of this work, they go to homes and fields to spread knowledge on how to keep well and invite mothers and grandmothers to talks on child health.

Jen Nai-hsiu, a barefoot doctor in the Nanling commune's brigade No. 1, discovered that some infants were not developing properly because their mothers had insufficient milk and did not know what else to feed them. She proposed trying to find a food that could serve as a supplementary or main feeding. After many experiments she and others working with her developed a suitable milk substitute. Her experiments came to the attention of a research unit of the Chinese Academy of Medical Sciences, which sent staff members to help improve the formula. It is now scheduled for regular production by a county food-products factory.

In the old days when infant mortality was high in the countryside it was thought that having a lot of children was insurance for their security in old age. Now that almost all children live and thrive, many couples are willing to have only two children. The birth rate in the county has steadily declined from 10.85 per thousand in 1971 to 4.68 in 1974 and 3.68 in 1975.

(From *China Reconstructs* September 1976)

A STEEL MILL'S BAREFOOT DOCTORS

Staff Reporter

ONE night at 11 o'clock Keng Huai-pao, a worker at the No. 2 coke oven of the Capital Iron and Steel Company in Peking, felt an acute pain in his abdomen so bad that he could hardly stand up. While fellow workers were considering taking him to the hospital Yu Tung-chih, another worker in the shop, arrived. He helped Keng lie down in the restroom and examined his abdomen. He concluded it was a spasm and not appendicitis demanding immediate hospitalization. He took some belladonna tablets from the medicine cabinet on the wall and told Keng to swallow two right away and another in half an hour, to drink plenty of warm water and keep lying down. He stayed with the patient to be sure that nothing happened. By midnight when the shift was over, Keng had recovered.

Wang Ching-chuan, an old worker in the coal-washing shop, had a sudden attack from his gastric ulcers. He was nauseated and had an acute pain in his stomach. Li Chuang, a machinist in his thirties in Wang's work group, took time out to give him acupuncture treatment. After being needled at five points, Wang began to feel better.

Workers like Yu Tung-chih and Li Chuang can be found in every shop, plant and mine in the Capital Iron and Steel Company, Peking's largest steel works. They are workers who have had medical training and work at their regular jobs.

These people, known as "red worker-medics", are able to give elementary medical and health care in the shops and augment the factory's regular medical service. They give medicines for common ailments such as colds, enteritis and indigestion and dress minor injuries on the spot. During winter and spring when epidemics like



Medical workers from Peking's Titan Tuberculosis Hospital who have settled in a Tibetan autonomous prefecture in Kansu province chat with a Tibetan woman from whom they have removed a nine-kg. tumor.



A mobile medical team travels from oasis to oasis on camels to serve desert herdsmen.



Chin Hsiang-kuan, barefoot doctor in the Loyuan commune, Hupeh province, treats a peasant child in his home.

A training course for barefoot doctors in the Tachai commune, Shansi province.



Wen Hsiu-chun, "red-worker-medic" in Peking's Capital Iron and Steel Company, treats an old worker with acupuncture.

A ward in the hospital of the
Maotien commune, Hunan province.

Kindergarten children in the countryside of Jutung
county, Kiangsu province, get their regular checkup.

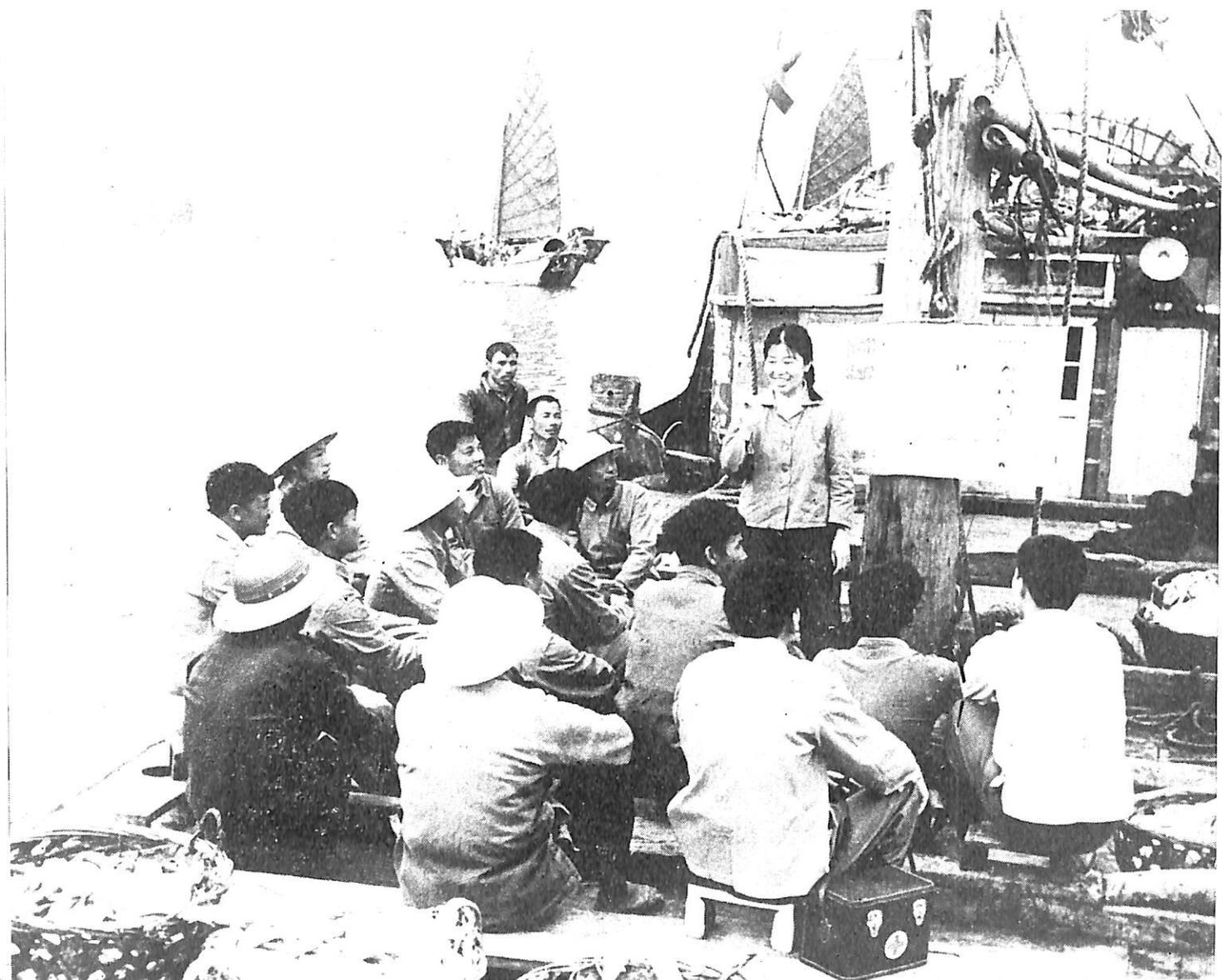


Making up an herbal prescription
in the pharmacy of a rural clinic.





An anti-schistosomiasis team in Yuehyang county, Hunan province, inspects fields.



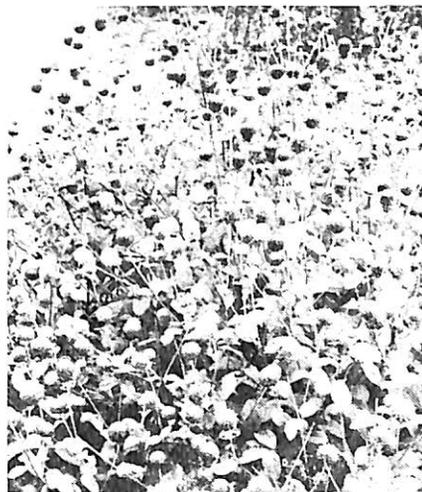
Testing the water in Sun Village, Shansi province.

A medical worker teaches hygiene and disease prevention on a fishing boat.





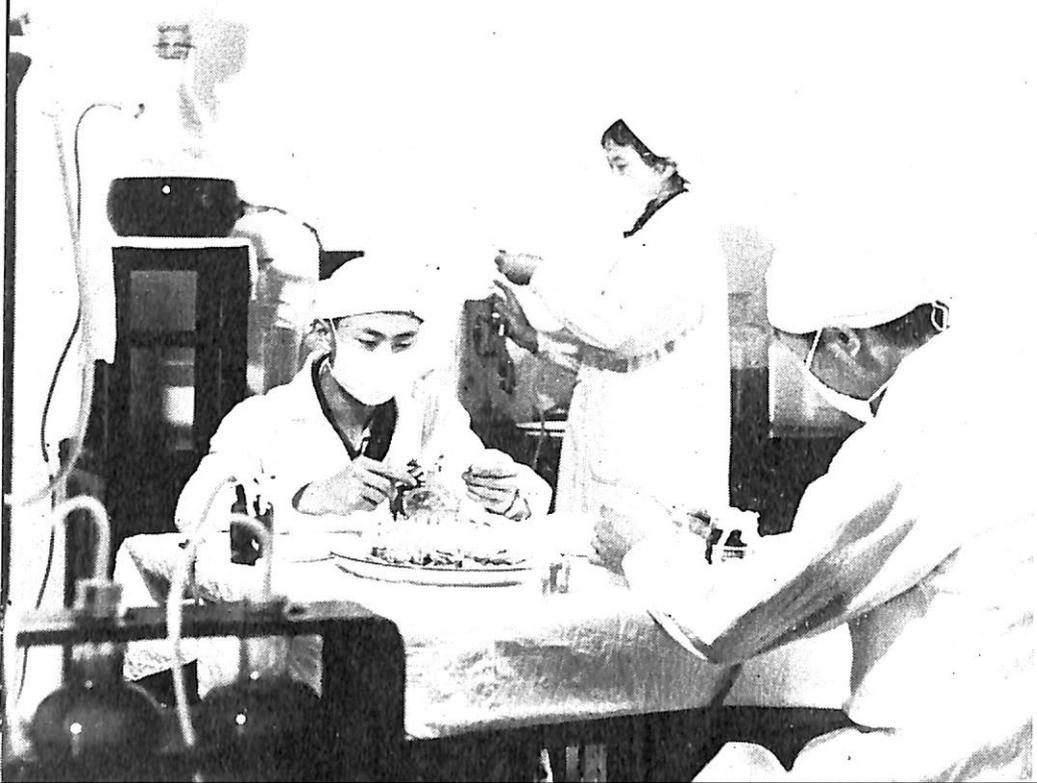
Hempweed (above), used, among other things, for sunstroke and headaches. Globe amaranth (right), prescribed for asthma and dysentery. Blackberry lily (above right), for sore throat.



The herb *Ilex chinensis*, used in burn cases.



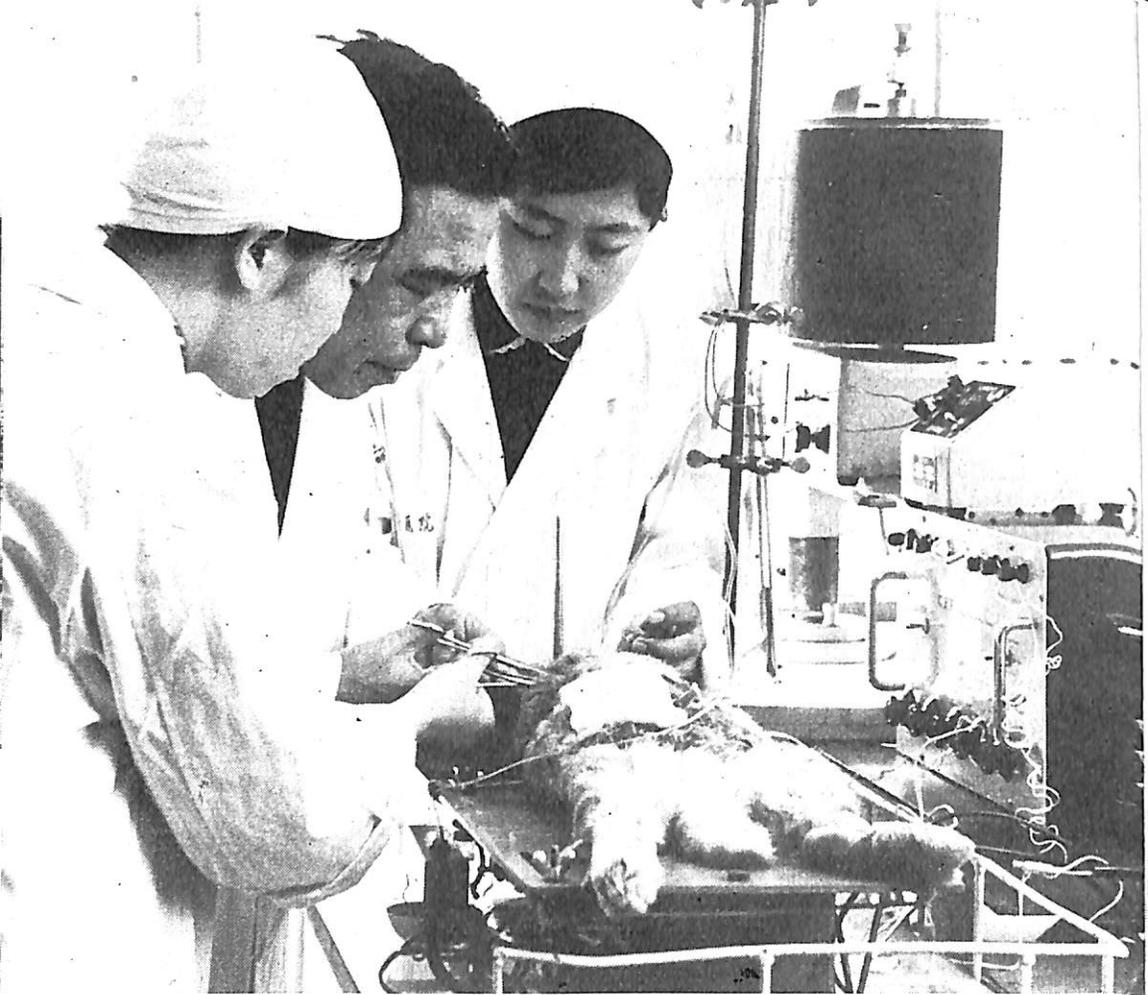
Picking safflower, an herbal medicine, at the Yutang brigade outside Shanghai.





Preparing a medicinal broth for a patient.

A pharmaceutical group in the Loyuan commune, Hubei province, has compounded over 120 kinds of pellets, pills, powders, ointments and ampules to reduce costs in its cooperative medical care system.



Medical workers of the Nankai Hospital in Tientsin find out how traditional medicine works by testing it on an animal.

Medical workers in the municipal hospital in Tsingtao, Shantung province, study gallstones expelled by patients.



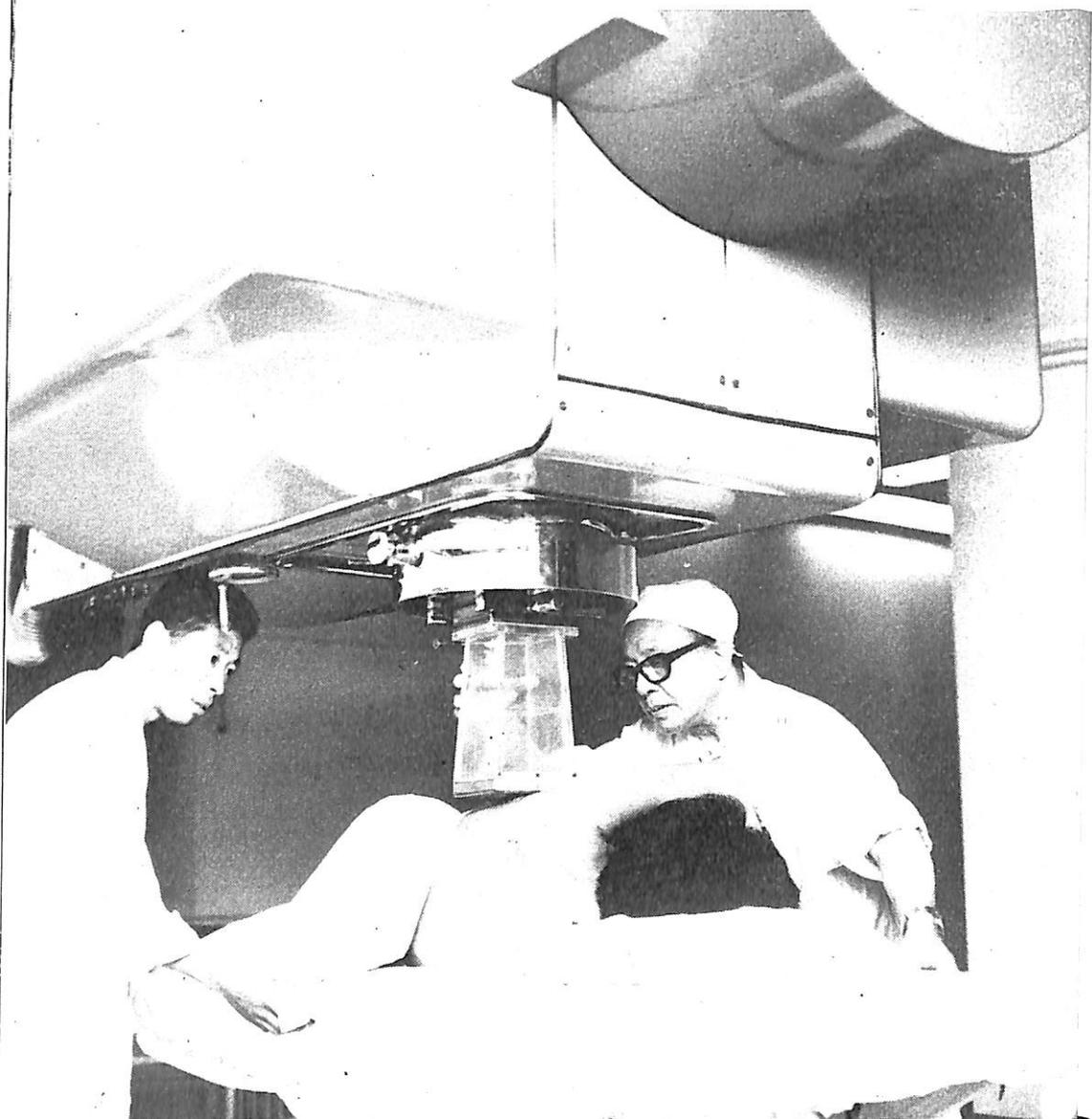
Army doctor Feng Tien-you, shown studying the structure of human vertebrae, is seeking effective treatment for bone and joint injuries combining traditional and western medicine.





A three-level anti-cancer network set up in Chungshan county, Kwangtung province, has increased its success in the early clinical diagnosis of nasopharyngeal cancer.

Dr. Wu Huan-hsing, director of the Cancer Institute of the Chinese Academy of Medical Sciences, observes a patient receiving radiotherapy.



flu often strike they help the medical staff distribute preventive medicines. Another of their tasks is to publicize prevention and treatment at shop meetings and through mimeographed leaflets they themselves put out.

The Capital Steel has a 400-bed hospital and three outpatient clinics. Every large plant or mine has a health center whose staff of professional medical workers give treatment and attend to preventive work. The medical staff, now 600 doctors and nurses, has been increased by half since the cultural revolution. Under the government labor insurance system, all workers get free medical care and members of their families get it at half-price. The worker-medics extend this service by making elementary medical care available to the workers right on the job.

How It Started

Under the impact of the barefoot doctor movement, in 1969 some Shanghai factories began to train similar people for industry — the “red worker-medics”.

This method has enabled China's medical and health work to serve the masses more effectively, doing prevention and treatment on a mass scale and widely disseminating knowledge on health and medical subjects. It is a good way to realize Chairman Mao's policy of combining health work with the mass movement.

Since 1970 the Capital Steel has trained four sets of worker-medics, 460 in all. Candidates are recommended by their shop work groups and attend study courses in the company's hospital ranging from two weeks to three months in length. During this period of concentrated study they learn how to diagnose ordinary medical and surgical cases, how to change dressings and give injections, first-aid and acupuncture treatment. In longer periods of study they learn elements of anatomy, physiology and pharmacology. After their studies they do a month's internship in the hospital's clinics or health centers, then go back to their own shops.

The worker-medics have found that they can be of service not only on the job, but after hours as well to people in their neighborhoods. In cooperation with doctors at the factory health centers they help give preventive inoculations, care for cases of chronic at-home illness and spread knowledge of birth control. Each one has a set of

acupuncture needles. To relieve the aches and pains of the older workers some of the "red worker-medics" augmented their use of acupuncture by learning massage on their own from experienced practitioners. Many of the "red worker-medics" can now handle more serious cases.

Wen Hsiu-chun, a 33-year-old woman in the pattern shop of the machinery plant, was chosen to become a worker-medic in 1970. "How can a person like you become a medic?" someone joked. The remark revealed the skepticism some people had about this new idea. In their minds workers could only rivet, weld, operate machines and do bench work. Not having gone to medical school, how could they treat illnesses?

Indeed Wen Hsiu-chun did have a hard time with her studies. With only a few years of schooling she found it hard to remember all the medical terms and acupuncture points. And, being a group leader in her shop, she had other responsibilities as well. With tenacity she overcame the difficulties. Even in bed at night she worked on memorizing the acupuncture points on her body. She spent every spare moment over her medical literature and made remarkable progress in a few months.

Since she became a worker-medic Wen Hsiu-chun has treated not only her co-workers but people from her neighborhood and nearby villages. Although she has small children and plenty of housework, she always goes immediately when called, even though it's late at night after she's gone to bed. Everyone praises her spirit of serving the people.

Scouts for Prevention

"Put prevention first" is one of Chairman Mao's important policies for China's medical and health work. The worker-medics are a strong force in this. Last spring the machinery plant health center decided to give an anti-influenza nasal spray to all of its 2,000 workers. With the help of the worker-medics the job was completed in three days. The worker-medics also made a Chinese herbal brew which they passed around the shops several times as a further preventive measure. The incidence of influenza was markedly low.

Last year worker-medics in the coking plant helped carry out a general examination for cancer of the digestive tract, for coronary heart disease among those above forty, and a general physical

examination for cooks and those working in high temperatures. Taking blood samples from 1,700 workers in connection with the survey for cancer would have been an impossible chore for the regular medical staff. With the help of the worker-medics the job was finished in eight days.

The company medical workers make weekly rounds of the shops, going directly to the patients. They examine and prescribe medicine on the shop floor. At the same time they get reports on the incidence of sickness in the shops from the worker-medics which help them plan their own work. Because they keep an eye on the health situation in their groups, the worker-medics are often the first to note the appearance of seasonal infectious diseases. They serve as epidemic-prevention scouts.

The Capital Iron and Steel Company's workers have great confidence in their "red worker-medics", fellow workers dedicated to better health.

(From *China Reconstructs* July 1974)

CREATING A NEW CHINESE MEDICINE

LI CHING-WEI

IN 1956 Chairman Mao called on Chinese medical workers to combine their knowledge of both traditional Chinese and western medicine and pharmacology and urged them to create a new unified system. This would contribute much to improving the people's health. Today it is an important part of China's attempt to modernize science and technology by the end of the century.

Traditional Chinese medicine, with its rich clinical experience and particular theoretical system, has been accumulated by the Chinese people over many centuries of struggle against disease. In the middle of the 19th century modern medicine began to enter China from Europe and became known in China as western medicine. Though the two schools existed side by side over long years, in old China the ruling class, out of a need for imperialist support to help maintain their rule, propagated a slavish mentality of worshipping everything foreign and took a negative view of China's long cultural heritage. The Kuomintang government claimed that traditional medicine was unscientific and barred it from hospitals. In 1929 it passed a bill banning its practice. Immediately traditional doctors protested, and the people boycotted it because among the masses there was deep confidence in it born of generations of experience. Traditional doctors continued to practice and home remedies continued to be passed among the people.

Integration

In line with Chairman Mao's policy after new China was established in 1949, medical workers of both schools began to learn

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from each other and to try to combine their knowledge and experience. In the past 28 years they have steadily followed Chairman Mao's revolutionary line, constantly fought the revisionist interference and repudiated the negative view toward traditional medicine.

Great numbers of traditional doctors and pharmacologists have been invited to work in hospitals, medical schools and research institutes. The same is true of traditional Mongolian and Tibetan doctors in their minority regions. Thousands of expert doctors of traditional medicine are now playing a bigger role. More and more western-type doctors have systematically studied one or two years in traditional medicine. They are now the main force in trying to improve this ancient system with modern methods and integrate the two schools in treatment and research. Many experienced traditional doctors now pass on their knowledge and experience to the younger generation without reservation, and the people eagerly contribute home remedies that have been effective.

Six hundred works on traditional medicine have been published in over 30 million copies. These include reprints of classical works, books on clinical experience by veteran traditional doctors, and others on the problems of combining the two schools. Much progress has been made in research on medicinal herbs and their production. Areas under herb cultivation have increased many times. Herbs from widely different areas have been exchanged and acclimated to new environments. Many wild herbs have been domesticated, as have wild animals from which medicines are made. Essential elements from herbs have been chemically synthesized and manufactured.

The traditional and western schools of medicine developed under different historical conditions. Each has its strong points, its shortcomings and its limitations. Chinese medical workers are trying to bring together the best in both schools in a critical and dialectical-materialist way, creating through practice and research a new medical system better than either of the two. They have made much headway.

At first, doctors of both schools merely held consultations, or one with western training made the diagnosis, one from the traditional school gave the treatment and both made joint observations. Now they work together in diagnosis, treatment, observation and summary. In this higher stage of cooperation new therapies, theories and techniques differing from either traditional Chinese or western medicine

have been worked out. These are often simpler, more economical and get quicker, better results.

Initial Achievements

Two examples may be cited.

Chronic bronchitis is common in China. Since the beginning of the 70s, 200,000 medical workers have carried out mass surveys and treatment of this illness throughout China. At the same time, by studying folk prescriptions, the experience of local doctors of traditional medicine and ancient medical literature, they have discovered several hundred medicinal herbs which relieve coughing and asthma and eliminate sputum. Laboratory testing and selection narrowed these down to 20 of the most effective. While research continues, they are being used in treatment and publicized.

For instance, the researchers studied *Vitex cannabifolia* S. et Z., a medicinal herb widely used for cough and asthma in the southern provinces of Kiangsu and Chekiang. Chemical analysis revealed that its volatile oil contains 17 elements effective in treating and preventing bronchitis. Oil extracted from the leaves was made into capsule and emulsion form. Results are better than with the herbal brews. It readily reduces or eliminates patients' symptoms. Inflammatory epithelial lesions of bronchus mucosa improve markedly.

On the basis of this experience, medical workers did the same studies on two north China herbs of the same family — *Vitex negundo* L. and *Vitex negundo* var. *incisa*. Animal tests and clinical use gave the same results as *Vitex cannabifolia*. This work has opened up vast resources for a medicine that can be collected and processed locally. Thus the new medicine, *Vitex cannabifolia volatile*, the result of combining traditional Chinese and western medicine, has become one of the leading drugs in preventing and treating chronic bronchitis. It has also proved helpful in reducing the incidence of pulmonary emphysema and pulmonary heart disease.

Another example is in the treatment of prolapse of the anus caused by hemorrhoids and fistula. Traditional Chinese medicine has had centuries of experience with this. But combining it with western methods has shown better results. Surgery sometimes results in anal incontinence or stricture, especially in cases of complex fistulas. Thread therapy, a combined method, is quicker and highly effective,

causes less complications and less pain. The method is also easier to learn and teach. In 4,000 cases treated at the Academy of Traditional Chinese Medicine since 1957, the short-term cure rate has reached 99 percent. Follow-up checks have found less than two new relapses per 1,000 cases.

Exploring New Fields

Can burns be treated successfully with combined methods? At first it was thought that traditional herbal medicine was not useful for burns over large areas, especially third-degree burns covering 80 to 90 percent of the body. But a survey showed that they were quite effective. It prevented shock in 105 cases of burns covering 30 to 99 percent of the body with only a small amount of intravenous fluid needed. Some herbal medicines have proved to be effective in preventing infection. In Peking, Shanghai and Anhwei province, good results have been obtained in treating third-degree burns covering 80 to 90 percent of the body with combined methods. Mortality has dropped.

Traditional Chinese medicine regulates body functions gradually and works more slowly. Could it be used in cardiovascular diseases which attack suddenly? People doubted it in the beginning. But since a combined treatment has been used, mortality from acute myocardial infarction has declined rapidly. In 13 Peking hospitals mortality in 1,000 cases dropped from 207 in 1975 to 146 in 1976. (Mortality was 453 per 1,000 in 1971 before combined methods were used.) More than half of the 1,000 patients took oral herbal medicine in the first 24 hours of hospitalization. Mortality was 11.6 percent. The others who took herbal medicine after the first 24 hours had a mortality of 19 percent.

In 1973 a patient with acute myocardial infarction in the hospital of the Academy of Traditional Chinese Medicine in Peking suffered a cardiac arrest for 19 minutes. Such cases were considered near hopeless. The doctors used a combined treatment. While continuing artificial respiration, oxygen and medicine to bring up blood pressure according to western medicine, they also administered traditional herbal medicines — a pulse-stimulating solution, anti-shock No. 1 and an anti-infarction compound to stimulate blood circulation. Gradually the heartbeat was restored, though the patient remained unconscious.

Nine days later full consciousness returned. The patient was discharged on the 38th day.

Medical workers have tried hard to find combined Chinese-western ways to deal with cancer. Much data and important information has come from studying ancient Chinese medical literature, analyzing medicinal herbs and folk prescriptions, and from treating complications in the course of postoperative chemotherapy and radiotherapy with traditional Chinese methods. For instance, some Chinese medicinal herbs have been found effective in preventing epithelial hyperplasia in the esophagus from developing into cancer. Some can reduce the size of a cancer. Some strengthen the patient's constitution, reduce pain and prolong his life. In tests on animals some herbs give immunity to the next generation. Some ease the side effects of chemotherapy or radiotherapy so as to make the whole course of therapy possible. Though the experiments are still in the elementary stages, they have shown the possibility that some types of cancer can be cured with combined traditional Chinese and western medicine.

Treating fractures and acute abdominal conditions with combined traditional Chinese and western methods began earlier. In recent years these methods have been spread and raised to a higher level. Medical workers are trying to integrate the theories of the two schools on the basis of their growing experience and fruitful research.

Today the effort to create a new system of medicine and pharmacology in China through research, medical education and disease prevention and treatment have become ever more widespread. No longer confined to individual diseases, drugs or methods, it embraces whole departments, fields or hospitals. The aim of hospitals in China is to become institutions where the two schools are effectively combined in almost all departments. Underlying this is the difficult task of integrating the theory of the two schools into one unified theoretical system, a problem now under constant research.

(From *China Reconstructs* February 1978)

NANKAI HOSPITAL

—Combining Two Schools of Medicine

Staff Reporter

NANKAI Hospital in Tientsin, though not large and perfectly equipped, has become famous in China for its achievements in integrating traditional Chinese medicine with western medicine. Many doctors come from other parts of the country to study its experience.

One Sunday, in the early hours of the morning, an ambulance brought a pale, middle-aged man to the hospital. Examination and X-ray revealed an acute perforation of a peptic ulcer. The man was hospitalized and treated without surgery.

The patient was Sung Shu-chuan, a 44-year-old mechanic at the Tientsin Printing and Dyeing Plant No. 4. He had had a sudden abdominal pain so sharp that he could neither sit nor lie down. At a nearby hospital doctors decided on an immediate operation. Sung asked to be transferred to Nankai Hospital known for treating such cases without surgery.

At Nankai Sung was given acupuncture treatment to stop the pain and stimulate the closing of the perforation. A stomach tube evacuated food to reduce pressure. An intravenous drip was started to restore his energy and strengthen his resistance. His electromyogram, electrocardiogram, intestinal sounds and respiration were continuously recorded with electronic equipment. In five minutes Sung began to show improvement. In an hour his abdomen had relaxed and the pain markedly lessened. A few hours after a dose of traditional medicine to help absorb the secretion in the abdominal cavity was given, the pain was nearly gone and the patient fell asleep.

After six days of traditional medicine by mouth, a fiberscope examination found that the perforation had healed. On the seventh day he was discharged, continuing to take "anti-ulcer" pills containing both traditional Chinese and western medicine in order to complete the cure. Sung was glad that he did not have to go through surgery and was able to go back to the plant in time to help install some new equipment. Sung Shu-chuan's medical care cost him nothing, as it was paid by the plant, but in this case the hospital expenses were only 30 yuan, much less than if he had had surgery.

Taking the Good Points

Peptic ulcer, acute appendicitis, intestinal obstruction, pancreatitis, cholecystitis, gallstones, biliary ascariasis and extrauterine pregnancy all carry the same symptoms — sudden attack, rapid development, severe abdominal pain. They can easily result in death. In most cases western medicine relies on surgery. Its advantage is that it saves lives by removing the cause at once. Its disadvantage is that it causes pain, and can involve adhesions, post-operative infection and other complications.

Traditional Chinese medicine avoids these disadvantages. Used for centuries, it has accumulated an immense amount of clinical experience. But diagnosis is not as accurate and rapid as in western medicine.

With critical abdominal cases, is it possible to combine the strong points of both Chinese and western medicine? In 1958 Chairman Mao called Chinese medicine and pharmacology a great treasure-house and urged that efforts be made to explore them and raise them to a higher level. He also advised medical people to combine Chinese with western medicine. Since then China's medical workers have made much progress in this direction.

In the last 15 years Nankai Hospital has admitted nearly 10,000 acute abdominal cases. Those treated without surgery exceeded 80 percent for appendicitis, 90 percent for pancreatitis and biliary ascariasis, 70 percent for perforated ulcers and 50 percent for intestinal obstructions.

This does not mean that surgery is never used. Acute cases were given medical treatment under constant observation, with surgery standing by if necessary. Surgery was used more often in such cases

as strangulated intestinal obstruction, serious necrotic pancreatitis and complicated perforations. Whichever method was used, an attempt was made to combine the most effective measures of both Chinese and western medicine so as to make them work together and produce better results than either might produce by itself.

The results in treating acute abdominal conditions without surgery were encouraging and Nankai began to combine Chinese and western medicine in all departments. In 1977, of 222 types of common diseases handled in the hospital, 179 were treated with combined methods with satisfactory results. In the past four years, 80 percent of its 2,000 acute abdominal cases were treated without surgery, with a mortality rate of only 1.2 percent. Mortality in 430 myocardial infarction cases dropped from 14.28 to 11.8 percent. The short-term cure rate for bronchitis has also reached 70 percent. Marked improvement was shown in the treatment of skin diseases, open ulcers, hemorrhoids and fistulas.

The hospital has set up a research center to explore the scientific explanations behind traditional Chinese medicine and lay the theoretical foundation for integrating it with western medicine. Current efforts center on acute abdominal conditions, bronchitis, open ulcers and coronary heart diseases.

A Revolution in Outlook

One notes differences in the Nankai Hospital. In the ward for acute abdominal cases, for example, most patients are under non-surgical treatment. Surgeons making their rounds need only ask about how they feel after taking Chinese medicine. Only in a few cases is it necessary to check incisions. It is difficult to tell whether the doctor is from the surgical or medical department, whether his training was in western medicine or Chinese traditional medicine. The patients' case records are more complicated, for they contain the results of tests and diagnoses by doctors in both schools. A coronary heart case, for example, will contain not only his electrocardiogram, cholesterol and triglyceride record but diagnoses by traditional Chinese doctors, including the related external and internal symptoms.

Nurses at Nankai take care of the patients using both types of medicine. Most of them have acquired some basic knowledge of traditional Chinese medicine and pharmacology. Many are familiar with some 120 traditional medicines and know about 40 acupuncture points.

The dispensary carries both kinds of medicines and makes up the traditional medicines needed.

Today 90 percent of the doctors in the hospital who only had western medical training before now have a knowledge of traditional Chinese medicine and about one-fifth of them have reached the point where they are able to do research in it. Almost every one of them went through the process from doubt to trust, from wavering to becoming firm.

One surgeon, for example, who didn't believe in traditional Chinese medicine would give traditional medicine to the patient just to go through the routine, then find an excuse to operate. He was hoping to prove that his way would be better than combining the two schools. He changed his mind only after the doctors began getting results with combined methods, and particularly after he spent some time as a member of a mobile medical team in the countryside.

One day he had to treat an acute appendicitis case in a remote village without adequate facilities for surgery. There was no time to send the patient to a county hospital. Quickly weighing the chances, he prescribed some traditional medicinal herbs to bring down the fever and eliminate infectious elements. After taking five doses the patient was cured. Then the doctor realized that using combined methods was better than using western medicine alone and, moreover, the serve-the-people attitude more important than making a name with the scalpel.

Not all doctors changed their thinking. One asked to be transferred to another hospital. There are still those who take a wait-and-see attitude. But most of the hospital's staff are dedicated to the integration of traditional Chinese medicine with western medicine. Doctors, nurses, laboratory technicians and herbal pharmacologists all try to improve their work constantly through practice and study. They know they are blazing a new trail. Recently 29 of them were cited as outstanding workers.

A New Horizon

Dr. Wu Hsien-chung, now 52, famous surgeon and vice-director of the hospital, is first on the honor roll in the work of combining the two schools. He was a member of the Chinese delegation to the 27th Congress of the International Society of Surgery held recently in

Kyoto, Japan, where one of the Chinese papers presented dealt with the treatment of acute abdominal diseases with combined Chinese and western methods. The paper was highly regarded by the delegates at the congress.

Dr. Wu was already a resident surgeon in 1948. Beginning in 1959 he studied traditional Chinese medicine for two and a half years. Since then he has been working on combining the two schools. Today he is leading the attempt to make Nankai Hospital a medical institution of a new type.

Speaking of his experience over the past 20 years, Dr. Wu said, "The combination of the two schools of medicine has opened a new horizon for me. In the past, as a surgeon of western training, I used to judge a disease merely by local and external symptoms and relied on my skill in using the scalpel. This limited my methods of treatment. Now I've learned to combine the strong points of both schools. Instead of stressing only symptoms and external causes, I also pay attention to the patient's general physical condition and increasing his power of resistance. This has broadened my view and led me to find more ways of treating patients."

"Take the treatment of acute intestinal obstruction, for example," he continued. "The main thing is to open up the intestinal tract. So first we reduce the pressure in the gastrointestinal tract and thus open the way for traditional Chinese medicine to take effect. Then we apply intravenous drip to counter dehydration and restore the proper functioning of the organs, and if necessary give atropine to prevent vomiting. When all this is ready we give the patient a large dose of traditional Chinese medicine to stimulate intestinal peristalsis. When this takes full effect we give an enema of herbal medicine or soap solution, thus washing out the obstruction. Isn't that better than surgery?"

"Once we break through conventional habits of thinking, we begin to feel there are more and more topics for study and our interest mounts. In the past we only studied western medicine. Now we're on a road of our own, with new horizons ahead. The combination of the two schools of medicine holds much promise. But while we've obtained satisfactory results in treating many diseases, we still have much to do, especially the theoretical integration of the two schools."

(From *China Reconstructs* February 1978)

GALLSTONES REMOVED WITHOUT SURGERY

China Reconstructs Special Correspondent

MORE THAN 1,000 cases of gallstones have been treated without surgery in the past four and a half years at the municipal hospital in Tsingtao in coastal Shantung province. Good results have been achieved by the combined use of traditional Chinese medicine and western medicine. A special group engaged in research there has drawn some preliminary conclusions from their clinical practice.

After the cultural revolution began in 1966 the Tsingtao hospital staff's spirit of serving the people was heightened. They undertook an analysis of their cases in an effort to improve prevention and treatment. They found that many of the emergency cases were suffering from gallstones. Almost all were treated by the western method of surgery. This has its limitations, as the removal of the stones is often incomplete and they frequently recur. More surgery is needed, often less satisfactory than the first time. The patients wished they could be treated without surgery. This spurred the medical workers to find a new treatment.

Chinese Plus Western Medicine

Could traditional Chinese medicine provide a better method? The hospital staff searched through Chinese medical classics for material on the diagnosis and treatment of gallstones. They also studied the experience of other hospitals which had recently treated acute abdominal cases with a combination of Chinese and western methods instead of surgery.

A special 34-bed unit with five experienced doctors and nine nurses was set up for gallstone cases early in 1971. First they studied

the causes of gallstones and analyzed past cases treated with surgery. On this basis they tried treating gallstone patients with traditional Chinese medicine supplemented by western methods.

The first case was an old woman from a commune in Jushan county. She arrived with an acute pain in her upper abdomen, short, rapid breathing, a temperature of 40° C. and in a state of complete jaundice. Examination showed that she had gallstones complicated by a bile duct infection. According to the usual practice, she should have had surgery immediately, but the doctors decided to treat her without surgery. While relieving her pain with western drugs, they brewed a Chinese herbal decoction and gave it to her that evening. The next morning her condition had improved markedly and a stone was found in her stool. She got well rapidly.

Heartened by this success, the staff members summed up their experience and tried the method on more cases. They combined a bold scientific attitude with conscientious care and close observation. Patients usually had five or six bowel movements a day after taking the decoction. These were carefully examined for stones and other indications of the patient's condition. In this way the staff accumulated experience, including a large collection of gallstone specimens, which enabled them to improve the treatment.

Breaking the 'Limit'

In some cases, though the patients had eliminated stones, symptoms still remained. The X-ray showed that this was caused by larger stones still present in the common bile duct. Reports from other hospitals in China indicated that Chinese herbal medicine could not expel stones larger than one centimeter in diameter. Could this limit be broken? Through experiments on animals and clinical practice the staff found that greater doses could expel bigger stones. They also determined the largest safe dose.

Lu Chen-chin, a woman worker at the Tsingtao Printing Plant, was admitted with a recurrence of gallstones complicated by bile duct infection 18 months after she had had a 2 × 2 × 2.5 cm. stone removed surgically. The doctors increased the amount of some of the main ingredients in the decoction. After 20 doses the pain in her upper abdomen disappeared, but four hours later she suddenly felt a sharp pain in her lower abdomen. It became distended but her bowels would not

move. Examination found that she was suffering from intestinal obstruction. The doctors gave her a Chinese herbal purgative. The next day the obstruction disappeared and a stone the size of a walnut, $3.7 \times 3.4 \times 2.8$ cm., was found in her stool. She was soon discharged from the hospital and able to return to work. In three years she has had no recurrence. Today she is active as an amateur athlete as well as good in work and study.

Practice to Theory

Was the elimination of a stone this big merely a one-time occurrence? Through careful study of her case, analysis of data accumulated through the years and more animal tests, the staff found that the bile duct has the ability to expel foreign bodies with a diameter larger than its own. When the secretion of bile is stimulated with Chinese medicines, the increased internal pressure and stronger contraction of the gallbladder flush the stones into the intestines to be eliminated with the stool. This new knowledge smashed the old belief that any stone larger than a centimeter in diameter had to be removed surgically.

The hospital now treats all gallstones under 4 cm. in diameter with Chinese medicine. So far more than 100 stones with a diameter larger than a centimeter have been expelled. The largest was 3.7 cm. in diameter, the longest 5.8 cm. and the heaviest 17.5 grams.

The staff has steadily achieved better results by fully utilizing the strong points of both traditional Chinese and western medicine. Chang Ti-sheng, a worker in a Tsingtao suburban hospital, was admitted in a state of toxic shock as a result of gallstones, from which he had suffered for 13 years. The attack had begun eight days before and now he was vomiting, had acute pain in the abdomen and a blood-pressure of only 70 over 50. He went into coma, his condition worsening rapidly.

In such critical cases surgery had always been the rule, but as the patient had already had other abdominal operations for appendicitis and gastric perforation the doctors decided against it. While gallstones were the main cause of his ailment, shock was the immediate danger. They treated his shock with acupuncture and an intravenous drip and then gave him the Chinese decoction to expel the stones. The patient eliminated stones three times in less than ten

days and was soon able to leave the hospital. Since then the group has handled more than 100 similar cases with satisfactory results.

Clinical experience shows that while gallstone cases have features in common, each has its own peculiarities and must be handled differently. It also proves that traditional Chinese and western medicine must be integrated into an organic whole. Any one-sided view that surgery is either omnipotent or completely useless is erroneous and metaphysical. Whenever possible a case should be treated without surgery by a combination of traditional Chinese and western medicine; it is easier on the patient, more effective and cheaper. On the other hand, surgery should be used if it is required to save the patient.

The efficacy of treatment which combines the two medical traditions is shown by the fact that 82 percent of the over 600 patients with gallstones in the common bile duct admitted to the Tsingtao hospital over the past few years have expelled stones without surgery.

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CREATING NEW ORTHOPEDICS WITH CHINESE AND WESTERN MEDICINE

Staff Reporter

IN the teaching hospital of the Academy of Traditional Chinese Medicine in Peking recently, doctors were gathered to watch a young doctor in his thirties treat a woman from distant Heilungkiang province whose head was twisted to the right and who could not walk. She had received a severe blow on the head more than a month before and been told by several hospitals that there was brain damage. Previous treatment had failed.

Now after careful examination and discussion, the doctors concluded that the blow had caused upper spinal compression and a partial dislocation of the third and fourth cervical vertebrae. They decided on manipulative reduction.

The young doctor gently turned the woman's chin to the right, then with the thumb of the other hand pressed on the displaced vertebrae. There was a sudden click as the vertebrae snapped back into place. Supporting her neck, the doctor asked her to try to walk. Slowly she stepped from one end of the room to the other. Three days later she was walking with ease.

The doctor was Feng Tien-you, a Communist Party member on the staff of an airforce hospital. Since he graduated in modern western medicine from an army medical college eight years ago, he has worked to integrate traditional Chinese medicine with western medicine as Chairman Mao had advised. He learned the techniques of massage from a folk doctor, studied Chinese medical literature to improve on traditional Chinese orthopedics and combined it with the good features of western medicine. This enabled him to create a new method of

diagnosis and treatment with which he has cured many cases of bone and joint injuries. Recently the Ministry of Health arranged a special training course in Peking where Feng could teach his methods to doctors from other parts of China.

Correct Orientation

After graduation Feng Tien-you was assigned to the clinic of an airforce unit. Among his patients were pilots and mechanics who could not work because of lumbago and associated leg pains. Neither western physiotherapy or nerve blocking nor traditional Chinese acupuncture, cupping or plasters gave anything but temporary relief. Feng was determined to find a new approach in the treatment.

One day in 1969 a pilot injured his back in the lumbar region. After two weeks in the hospital he still walked with his body bent to one side. Hearing that a folk doctor in the outskirts of Peking offered cures in a few visits, he asked to go and suggested that Feng go along. "Seeing is believing," Feng thought to himself and went.

When they arrived at the production brigade's clinic, many people were waiting in the courtyard to see the folk doctor. Inside, she would explore a patient's spinal column, touch here, press there, and the patient would straighten up and leave. Feng was impressed by the fact that treatment for such bone troubles cost practically nothing. Patients only paid 0.10 yuan for registration.

When the pilot sat on a bench and the woman had massaged his back for a while, he too straightened up and felt better. No schooling, Feng thought, but she can cure her patients. This was genuine skill.

The method the folk doctor used was a family tradition for generations — massage, a heritage of Chinese medicine created over several thousand years. The masses have continued to use it because it is effective in common sprains, fractures, lumbago and leg pains.

This visit made Feng see more clearly why Chairman Mao had said, "Chinese medicine and pharmacology are a great treasure-house and efforts should be made to explore them and raise them to a higher level." He had also pointed out that Chinese medical workers should concentrate on the prevention and treatment of the most common diseases in order to serve greater numbers of the people. Dr. Feng had found direction for his medical work.

In a letter to the Party committee of his airforce unit he asked for a chance to learn the special skills of this folk doctor. He was given six months to study with her.

Learning Modestly

How to learn from a folk doctor who had never had any education? Doctors had come to learn her skills before but impatiently went

away when she could not explain what she was doing in modern medical terms. A student of western medicine in college, Feng too thought that traditional Chinese medicine was vague and unscientific. Now he realized that he would have to get rid of these ideas before he could learn seriously.

Working with the folk doctor he saw with his own eyes how she cured patients with back and neck injuries, lumbago, leg pains and other crippling injuries. Certainly her methods — simple, effective and costing practically nothing — met the needs of the masses and were better than the western methods he had studied.

He also saw how the people cured themselves using indigenous prescriptions and folk remedies. Limited and imperfect as these might be, he realized that because they had stood the test of centuries they must contain some grains of scientific truth. As a medical worker in new China he should carefully analyze and preserve the best of this heritage. Using dialectical materialism and modern medical knowledge, he should explore, sift and improve it in order to help create China's new system of medicine and pharmacology.

As he learned, Feng Tien-you's faith in the folk doctor's methods increased. He watched her fingers closely, helped her with her medical practice and daily chores. He listened attentively to her explanations. Since Feng treated her with respect, she was more than willing to teach this new student all she knew. He began treating patients under her guidance.

During the day Feng worked with the doctor and at night reviewed what he had learned no matter how tired he was. He drew diagrams of her finger movements and consulted relevant literature. He analyzed her methods with his knowledge of anatomy, physiology, pathology and clinical medicine.

Breakthrough

Because Feng could combine traditional Chinese with western medicine, he found the scientific basis of the folk doctor's methods within a few months of hard work.

Many workers, peasants and army men suffered from lumbago, sciatica or leg pains because of the herniation of an intervertebral disc in the lumbar region, which presses on nerves. Though in recent years Chinese doctors have improved the western methods of traction and surgery and added the traditional methods of massage, the treatment was long, patients suffered a great deal and the problem often recurred.

With her many years of experience, the folk doctor had found simple and nimble manipulations which were effective. When she

explored a patient's back with her thumbs, she could locate the sharp deviations of the spinous process of the vertebrae, and after she corrected the abnormal position with manipulation, the symptoms would diminish or disappear.

This was the key to her treatment of the herniation of lumbar intervertebral disc — correcting the alignment of the spinous processes of the vertebrae. Feng knew that most disc protrusions are closely interrelated with deviation of the spinous processes. He analyzed the methods that other massage doctors used and studied the dynamic balance that exists between the spinal column as a whole and the individual vertebrae. Anything disturbing this equilibrium can cause misalignment of the spinous processes. This is true not only in the protrusion of the lumbar intervertebral discs but also in other ailments which, however, can generally be distinguished from the former with finger exploration. With further studies Feng improved the folk doctor's methods, making them more effective and scientific, and reducing the recurrence of the ailments.

To learn more and become more skilled, Feng Tien-you visited the orthopedic departments of many hospitals and a dozen bone specialists of the traditional school. He did not let any opportunity pass to learn from veteran doctors and patients. He read much traditional Chinese and modern medical literature. Building on the basis of what he learned from the folk doctor, he developed a series of new methods combining traditional Chinese practice and modern orthopedics. His touch is light and dexterous, gives no pain to the patients and brings remarkable results in a short time. His methods require no equipment and little or no medicine.

Feng Tien-you has cured many patients in the armed forces, in villages, factories and government organizations. He has cured or alleviated pain in the shoulders, neck or arms in people who have suffered for years. Patients with shoulder peri-arthritis have been able to lift their arms again. Persons crippled by lumbago or leg pains have thrown away their crutches and gone back to their jobs. He has written over 100,000 words of lecture notes and taught his new methods to more than 200 doctors and medical workers.

Feng Tien-you regards his achievements only as a beginning. He believes that the development of medicine and man's understanding of it are unlimited. Feng still gets cases that do not respond to his treatment or that recur. But he knows that the answer is: continued study, investigation and practice.

(From *China Reconstructs* December 1975)

TREATING BURNS WITH HERBAL MEDICINE

Nantung Medical College Pharmacology Group

Since 1966 when the cultural revolution began, Chinese medical workers have more closely followed Chairman Mao's instruction that they should study China's rich medical heritage and combine traditional Chinese medicine with western medicine. One result has been the broader use of medicinal herbs, many of which produce better results and cause few or no side effects. They also cost less than pharmaceutical products, an important factor in developing overall medical care for China's large population. In the treatment of burns, herbs have been found which promise new advances in this branch of medicine. Here, a medical college research group describes the scientific research done on the herb, *Ilex chinensis*, and its use in treating burns.

IN 1969 a joint research group was set up by Nantung Medical College in Kiangsu province, its teaching hospital, the Nantung Pharmaceutical Plant and the Nanking College of Pharmacology to study the treatment of burns with *Ilex chinensis*. For the past eight years we have collected and studied the results of its clinical application and tried to improve it.

Starting on the basis of an old method of using the herb, we have increased the forms with which it can be administered, synthesized its effective elements, studied the toxicity of the tannin it contains and investigated its chemistry and pharmaco-dynamics. From treating burns over small and medium-size areas, we have gradually gone to treating burns over larger areas. Because of our success, other hospitals have followed and achieved good results. So far there are 1,115 cases recorded with 90 percent success, and 416 of them have been handled by the teaching hospital of Nantung Medical College.

Results

Clinical experience with *Ilex chinensis* shows good results, proves it easy to use, that side effects are minor and treatment inexpensive.

In the past burns required many dressings and complicated nursing care. The patients were kept in sterilized wards to prevent septicemia. Hence those with severe burns had to be moved to large city hospitals with better facilities.

Ilex chinensis has a strong scab-forming property. It helps the body rapidly form a protective covering over the burn which reduces exudation and the danger of infection. With this herb most patients can be treated in ordinary clinics with far fewer dressings, simpler nursing care and at lower cost. The chances for complications such as shock and septicemia are reduced. Medium-area burns can now be treated in local clinics in the countryside, mountain areas, factories, mines and at worksites. Prompter treatment creates better conditions for healing.

Since we began to use *Ilex chinensis* regularly in our hospital, the death rate has declined 12.9 percent, the average hospital stay has been shortened by 14.5 days, and the average medical expense cut 57.55 percent, compared with before 1968.

Using Folk Experience

Ilex chinensis is a ligneous plant, growing widely in the warm, rainy temperate and subtropical zones of south China. Its shape, taste and other properties were described 400 years ago in the *Compendium of Materia Medica* compiled by the famous pharmacologist Li Shih-chen of the Ming dynasty (1368-1644) and in later pharmaceutical works. Li pointed out that it could fight off colds, activate blood circulation, reduce swelling and pain and nourish the muscles and skin. It was used to treat headaches, dizziness and abscesses. For centuries traditional doctors in south China have accumulated experience in treating burns with it.

In 1965, when a worker from the Nantung Pharmaceutical Plant was buying medicinal herbs in the mountains of Anhwei province, Wang Chang-hsing, an old peasant, told him how he was using *Ilex chinensis* on burns. The worker reported this to the plant's leaders and suggested making a medicine with the herb, but nothing was done.

In 1969 some workers in the Nantung Pharmaceutical Plant again raised the question of *Ilex chinensis* for burns because the complicated procedures and high cost of the current method were beyond the capacity of the countryside or local-level units. We accepted the workers' suggestion and formed a group to study *Ilex chinensis*. It consisted of workers and technicians from the pharmaceutical plant, leaders from cooperating units, teachers from the medical and pharmacological schools, and doctors and staff from the hospital.

We first sent a group to visit the old peasant Wang Chang-hsing. At the same time, we followed the policy of uniting theory and practice, *i.e.*, combining research, production and clinical practice in all our work.

The old peasant lived in a remote mountain village in Kuangteh county. Before liberation in 1949, the peasants could afford neither doctors nor medicine. For more than 30 years he had been treating peasants with burns, saving many lives. After liberation Wang offered his remedy, which he had formerly kept secret, to the local medical unit, hoping it could be used. Under Liu Shao-chi's revisionist line which scorned Chinese traditional medicine, however, it was not. Now, seeing us come from several hundred miles away, he was greatly moved. Though in his sixties, he led us into the mountains to collect the herb. He took us to visit peasants he had healed. He showed us how he prepared a decoction of the herb. We were moved by the old folk doctor's enthusiasm.

A Struggle

We invited Wang to the hospital with his *Ilex* decoction and were ready to try it on the patients. It was the first time a peasant doctor had ever worked in our hospital. Burn cases are complicated and changes sudden. Some staff members thought that if even modern methods could not guarantee good results, what could a folk doctor do with his herbal medicine? But we went ahead anyway under Wang's guidance.

A boatman was brought in with sulphuric acid burns covering 40 percent of his body. We put the *Ilex* liquid over the burns and a thick layer of dark brown scabs soon formed. The patient felt little pain. Three weeks later the scabs fell off and the burns had healed. This case made the sceptics admit that perhaps the method had value.

However, new things develop only through struggle. In 1973 we admitted a patient with burns covering 83 percent of his body. When we applied the *Ilex* liquid, 30 percent of the surface with mixed-degree burns would not form scabs. Infection set in and septicemia with a high fever followed. Some in our group maintained that this indigenous method was all right for small burns but not for larger ones. It would be better to use the western method. Most of us thought, however, that since *Ilex* had proved especially effective, we should continue using it, improving our method instead of abandoning it. Our group decided to continue the method.

We discovered that the main cause of septicemia was that the *Ilex* liquid could not adhere to the surface of the deep burns because of the exposed subcutaneous fat. With no scabs formed on the surface, the exudate served as ground for bacteria to multiply. We made an

Ilex emulsion which would adhere. This stopped the exudation and scabs soon formed. At the same time we gave antibiotic and glucose injections to counter septicemia. The patient improved rapidly and was discharged within a month.

We made another emulsion which further reduced the irritation to the burned surface and increased the efficiency of the method. Over the past six years, we have handled 416 cases, including 33 with burns covering over 50 percent of the body. With *Ilex chinensis* as the main medicine, supplemented with injections of glucose and antibiotics, we were successful with 89.3 percent of the patients.

Progress

Preliminary successes in our clinical practice encouraged us to determine their theoretical basis. We found that *Ilex chinensis* contains large amounts of tannin, which induces the formation of scabs and prevents the multiplication of *bacilli pyocyaneus* and *staphylococci aureus* often associated with infection of burns. This is of great importance to the prevention and treatment of shock and septicemia. The Nantung Medical College Hospital made many cultures from the exudation on the surfaces of burns on which *Ilex chinensis* had been applied. The number of *bacilli pyocyaneus*, the most dangerous bacteria, was greatly reduced. Cultures made from exudation beneath the crusts formed by *Ilex chinensis* revealed no *bacilli pyocyaneus* or *staphylococci aureus*.

In the past surgeons used tannin from *galla sinensis*, or medical tannic acid, to treat burns. However, this is particularly toxic to the liver, leading to acute necrosis, and was discontinued in the forties. Since *Ilex chinensis* also contains tannin, we made special studies of its toxicity. We found it causes neither jaundice nor noticeable harm to the liver even in cases in which the burns covered over 50 percent of the body.

In addition, we determined, separated and extracted the chemical compounds of *Ilex chinensis* and synthesized its effective antibiotic elements.

Problems, however, still exist in treating burns with *Ilex chinensis*. For instance, in a few cases pus develops beneath the scabs, whose dark color prevents its early discovery. Primary healing under the crust has reached only 60 percent of these cases. We hope to solve these problems through further study and practice.

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CANCER RESEARCH IN CHINA

LI PING

MORE THAN 30 "bases" for the study, prevention and treatment of cancer have been set up throughout China in villages, factory and mining areas with a high rate of incidence of the disease. These have already amassed a vast amount of data and opened a number of areas for further research.

This work is facilitated by China's broad medical and health network extending down to the grass roots — county and commune hospitals and the barefoot doctors in the rural areas, and factory and mine clinics and the "red worker-medics" in industrial areas.

The first such base was set up in 1969 in Linhsien county, Honan province, where cancer of the esophagus was prevalent. It is staffed by doctors and researchers from the Chinese Academy of Medical Sciences and the Research Institute of Traditional Chinese Medicine in Peking and teachers and students from the Honan Medical College.

First they followed up leads supplied by the local people to find specific spots where incidence was highest — an old goatherd's observation, for instance, that in his village some goats "couldn't swallow" and information from a barefoot doctor that in one village there was more cancer among families who drank water from a certain well than among others. Then the team began investigating these spots.

In 1971 the team carried out a survey of deaths caused by cancer of the esophagus going back over the previous 30 years (1941-1970) in 76 commune brigades with a present population of 110,000. It showed that the death rate had remained more or less constant over

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the 30-year period, indicating that the disease was due to some permanent factor in the environment. This fact was borne out by records of the Linhsien county hospital over the previous dozen years.

Mass surveys for cancer of the esophagus were carried out among the six million people of Anyang prefecture in which Linhsien is located and among 50 million people in Honan, Hopei and Shansi provinces and Peking. They showed that the high-incidence center for cancer of the esophagus in north China is the southern Taihang Mountains (where the three above provinces meet and where Linhsien is located). The rate of incidence gradually drops off further away from this point.

In cooperation with related research units the Linhsien team studied the relationship between the incidence of the disease and such factors as nitrosamines in food, the lack of the trace element molybdenum in the water and soil, the consumption of moldy corn and the extensive use of pickled vegetables in the diet.

After field studies and laboratory experiments they drew up a preventive program which was promulgated by the Linhsien county Party committee. It called for (1) preventing food from molding, (2) measures to eliminate nitrosamines and their precursors, (3) use of ammonium molybdate fertilizer, (4) treatment for people with severe epithelial hyperplasia (a precancerous lesion) of the mucous membrane of the esophagus, and (5) changing undesirable dietary habits.

A wide publicity campaign made the five measures known to every household in the county. Commune production teams improved their methods of sunning and storing grain to prevent mold. When a well was found to contain too much nitrite or nitrate salts, filtration stations were built to treat the water. The peasants were urged to grow more vegetables so they would not be so dependent on pickled vegetables. Ammonium molybdate fertilizer increased molybdenum and brought in better yields.

Mass screenings are carried out regularly by the Linhsien county base for early detection and treatment. This is done by examining the epithelial cells cast off by the esophagus. The cells adhere to a tiny balloon covered with fine mesh, which is swallowed, inflated and gradually withdrawn.

Using this method in some places, the base staff has been able to detect over 90 percent of all cases of cancer of the esophagus, and 81 percent of the early cases as a result of general surveys among people

over 30 made in larger areas of the county. Linhsien county hospital records show that between 1961 and 1964, before such surveys began, the rate of early detection was only 6.8 percent. The earliness at which some cases have been detected by such mass screening has rarely been achieved in Chinese city hospitals or noted in medical literature from abroad.

Early detection and treatment has greatly increased the rate of cure. In 1975, follow-up visits on 170 patients who had had early surgery for cancer of the esophagus found that the five-year survival rate was 90.3 percent, and among them, 93 persons had suffered no recurrence in eight years.

Four hundred barefoot doctors have been trained for this work so that in every commune brigade there is a barefoot doctor who knows how to use the apparatus, make smears and examine the cells. In this cytologic examination network they have been instrumental in discovering many early cases.

Epidemiological Surveys

Retrospective surveys of cancer deaths, now done with methods which are an improvement on those used in Linhsien, are in the process of being made for cancer of many kinds. The National Cancer Control Office under the Ministry of Health mobilized specialists in various fields and 1,000,000 barefoot doctors to start a nationwide survey of deaths caused by malignant tumors. By May 1977 it had investigated several hundred million people in 16 provinces, municipalities and autonomous regions. The survey was expected to be completed by the end of the year.

This survey, involving an immense amount of work and many technical problems, could not be done without the aid of the masses. Wherever the field workers go, first they call the people together, tell them the importance, requirements and procedure of the survey and ask for their cooperation. With the help of peasants and leaders familiar with local conditions they visit every home in a village to record the deaths, year and cause. In the frontier regions of Kwangsi, Sinkiang and Inner Mongolia where people of China's minority nationalities live, the survey-makers often travel long distances into sparsely-populated mountains or deserts for their task.

In cancer work, too, there has been a fierce struggle between two political lines. In 1976 when the general survey was being launched in Kiangsu province, followers of the "gang of four" in the province tried to undermine it by saying the survey was being used to suppress revolution, that it was putting professional work first, that "our business is to study the living and not the dead". But, feeling that they were carrying out Chairman Mao's directive "Vigorous action should be taken to prevent and cure endemic and other diseases among the people and to expand the people's medical and health services" as well as Premier Chou En-lai's many directives on doing more work on cancer, the surveyors continued the project. In six months they completed their work among 50 million people and on the basis of data obtained made a map of the geographical distribution of the chief types of cancer prevalent in the province.

The epidemiological data obtained in recent years has enabled us to start etiological studies involving many fields. In 15 counties of five provinces, among them Szechuan and Honan, we are testing water and soil and making intensive studies of nitrosamines, fungi, trace elements and heredity as factors in cancer.

Progress has also been made in studies of cancer of the nasopharynx, liver cancer and leukemia. Researchers have cultivated several lines of lymphoblastoid cells and found in them the presence of EBV (Epstein-Barr virus), and for the first time in the world have established an epithelial cell line for nasopharyngeal cancer. These will be important in the investigation as to whether or not the virus is the cause of cancer.

Early Diagnosis and Treatment

Improved cytologic examination technique has made it possible to detect 90 percent of the cases of nasopharyngeal cancer. At the Chungshan county base in Kwangtung province, which has a high incidence of this cancer, the success of early clinical diagnosis of first and second-stage cases was raised from 44.93 percent in 1970 to 68.86 percent in 1975 since the anti-cancer network was set up. A survey of several million people for liver cancer using AFP radioautography was able to detect 80 percent of the cases. Many barefoot doctors are now able to use this method.

There have been great improvements in the treatment of several major types of cancer. In the case of cervical cancer the rate of cure has risen throughout the country. Periodical mass surveys for cervical cancer and its precursors undertaken over the past dozen years among women in the Shanghai textile industry has facilitated early detection and treatment. The five-year survival rate for those who have had surgery is 96 percent. Among the textile workers, the figures for both incidence and death rate for cancer of the cervix are constantly dropping. The efficacy of radiotherapy for nasopharyngeal cancer is constantly improving, with the five-year survival rate now 49.5 percent. The same is true for the cancer of the liver, breast and choriocarcinoma.

Two Schools United

China's centuries-old traditional Chinese medicine and pharmacology is a valuable heritage. One of Chairman Mao's dreams was a new Chinese medicine created by integrating traditional Chinese medicine and western medicine. We have had some success in treating cancer of various types with a combination of methods from the two schools.

Quite a few medical units have broken away from relying solely on surgery, radiation and chemotherapy and have begun treating cancer according to traditional Chinese medical theory. Traditional medicine takes into consideration the patient's condition as a whole and uses a dialectical approach to treatment. By the combined use of traditional Chinese medicine and western medicine, we both attack the disease and build up the patient's power of resistance. Use of the combined method has already enabled Chinese medical workers to formulate certain laws and achieve preliminary clinical successes.

A number of Chinese herbal medicines have proven effective under certain conditions, and studies are now being carried out on their plant chemistry, pharmacology and the processes of production. Some of the medicines can be partially or totally created synthetically. Some 40 effective anti-cancer drugs used abroad are now produced in China and she has produced some drugs of her own for chemotherapy. A dozen types of large-size China-made medical equipment are now in use for prevention and treatment.

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