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Proceedings of a workshop held at Shiraz, Iran, 6-13 March 1976

Editors: H.A.Ronaghy, Y.Mousseau-Gershman, and Alexandre Dorozynski

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Postal Address: Box 8500, Ottawa, Canada K1G 3H9
Head Office: 60 Queen Street, Ottawa

Ronaghy, H.A.

Mousseau-Gershman, Y.

Dorozynski, A.

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VILLAGE HEALTH WORKERS

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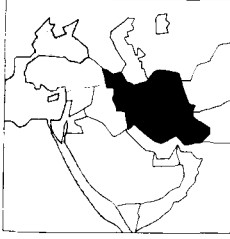
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IRAN

Village Health Workers in Iran

<i>Population:</i>	36 million*
<i>Infant mortality rate:</i>	139 per 1000/yr
<i>Crude birthrate:</i>	45 per 1000/yr
<i>Crude death rate:</i>	17 per 1000/yr
<i>Rate of population growth:</i>	3.1% per yr
<i>Per capita GNP:</i>	\$490

**All figures from 1976 World Population Data Sheet of the Population Reference Bureau, Washington, D.C.*

Hossain A. Ronaghy

*Department of Community Medicine,
Pahlavi University School of Medicine,
Shiraz, Iran*

Iran, a fast-developing country with a population of 33 million, suffers from a shortage of trained health personnel. About half of its 12 000 physicians practice in Tehran, Iran's largest urban centre, with most of the rest residing in other cities. This leaves approximately 60% of Iran's population, those who live in the 65 000 villages and rural areas, with little or no medical services and with a physician to population ratio of 1:15 000.

To help alleviate this great shortage, Iran is now importing foreign physicians to provide medical service to the rural areas. This has helped to some extent but the problem still exists. Furthermore, there are very few paramedical personnel: only about 5400 nurses and midwives and 9000 nurse/midwife assistants currently practice in Iran.

Given this health manpower situation, it is obvious that the existing numbers of physicians and paramedics are inadequate for rural health care delivery in Iran. In an

attempt to provide a partial solution to this problem and to create a model for village health care, the Department of Community Medicine at Pahlavi University Medical School in Shiraz undertook two pilot projects. One was the training of "village health workers" (VHWs). VHWs are literate village men or women who receive 6 months training in both preventive and curative health care, and upon completion of their training are sent to a village to provide basic health care, under the regular supervision of a physician. The second project involves the training of "middle level health workers" (behdars), men or women with a minimum of 9 years of education who are trained for 4 years. Following their training they live in small towns and large villages, supervise the work of the VHWs, help train future VHWs, and handle patients referred from the villages by the VHWs.

The Kavar Village Project

In January 1973, to find out whether or not barely literate villagers could effectively improve rural health in Iran, the Department of Community Medicine undertook a pilot study with IDRC's financial support. A study site was chosen at Kavar, a small town about 35 miles southeast of Shiraz, to begin the training of VHWs. Located in Kavar was a health corps station, one of about 400 similar health centres found throughout rural Iran. (Health Corps is the organization created to establish universal medical care, which is one of the principles of the revolution initiated by H.M. Shahanshah Aryamehr in 1964.)

These stations are staffed by recent medical graduates who spend 18 months at the station in lieu of military service. Health corps stations seemed to be the ideal site for VHW training.

It was realized that the VHWs would have to be continuously supervised once their

training was completed and they were sent to the villages. The health corps physician was a logical choice for clinical supervisor, and the health corps station was also a logical choice, both as a training site and as a centre for continuing education of the VHWs. Furthermore, the health corps stations provide 400 nuclei in rural areas throughout Iran around which future VHWs could be placed, thereby greatly expanding the number of villages where health care would be available.

Other determining factors in selecting Kavar as the study site were a lack of any other available health care in the area, reasonable proximity to the city of Shiraz, and the administrative and supervisory resources available.

Prior to the selection and training of the VHWs, baseline surveys were conducted to determine disease prevalence and the availability of literate villagers and medical care. Epidemiological studies in Fars province provided data on disease incidence among rural village populations as well as indications of the feasibility of providing primary health care through the use of auxiliaries with very basic training. It was shown that most of the complaints at the village mobile clinic were fairly simple and that an auxiliary health worker was capable of adequately treating most of the cases and referring the remaining 10% to the medical centre.

In addition, a random-sample knowledge, attitudes, and practices (KAP) study of 200 households about individual and public village health was conducted. Census data on births, deaths, marriages, divorces, immigrants, emigrants, and total population, were also gathered.

Based on the data obtained from the studies, the behavioural objectives to be met by the VHWs were developed. Objectives were specified in six areas: communicable disease control; environmental health; nutrition; community education; maternal and child health and family planning; and treatment. These behavioural objectives then provided the basis for curriculum planning and the content of the Persian learning material to be prepared for the course. The subjects covered included growth and development, anatomy and



Dr Ronaghy and colleagues at Pahlavi University, Shiraz

physiology, nutrition, communicable diseases, VHW-patient relationship, maternal and child health and family planning, and rural public health.

Selection of the VHW Trainees

The philosophy of the project from the beginning was to involve the villagers as much as possible in decisions and overall participation. Therefore, a total of 33 villages surrounding Kavar were visited and the village "head man" (Kadkhodah) or head of the village council of each village was consulted about the presence in his village of a literate man or woman who might be a suitable VHW candidate. The villages were then revisited, and all candidates were given literacy tests.

A group of 27 top candidates was then selected and all were tested for physical and mental fitness; they were personally interviewed to determine their attitudes toward the project goals, family planning, traditional medicine as compared with modern medicine, and their reasons for wishing to join the project. Finally, 16 VHWs from 16 villages were chosen. They represented a wide range of ages, personalities, and socioeconomic backgrounds. There were 11 men and 5 women, and they ranged in age from 16 to 45 years.

As a result of the evaluation of early experiences, trainees are now selected on a merit basis rather than by village authorities, and will not necessarily be located in their home villages when they complete training. This change was designed to remove the VHWs from the influence of village authorities and to lessen the like-

likelihood of their involvement in local political and family disputes that might hamper their ability to function as VHWs.

Training Method

Once assembled in Kavar, the VHWs began, in August 1973, an intensive 6-month training course. The major objective of the course was to prepare the VHWs for preventive and educational work in their respective villages. Of particular importance were sanitation and basic hygiene, nutrition, family planning, immunization, environmental health, and communicable disease control. These subjects were taught by staff members from the Department of Community Medicine, medical personnel from the Health Corps, and the project training director. In each case, theory and practice were integrated, so that every day the students had an opportunity to apply in the field or in the clinic what they learned in the classroom.

The students were extremely enthusiastic and learned at a much faster rate than had been anticipated. They all lived together in a rented house in Kavar, where meals were provided and where *esprit de corps* developed among them. The trainees received 500 Rials (U.S. \$7.50) per month as expense money. They also helped the school by performing various tasks.

Classes were taught in the rented house, while practical and clinical work was done at the nearby health corps station. The students were divided into four groups of four students each. One group worked with the midwife attached to the health corps family planning clinic, who taught maternal and child health and family planning. Another group worked with the health corps aide in the treatment room, where he demonstrated sterile technique, methods of giving injections, burn treatment, wound dressing, and other first-aid skills. All of these were practiced by the students until they became proficient.

A third group worked with the health corps station assistant, whose training was in pharmacology, who taught them indications, contraindications, dosages, and side effects of drugs. The fourth group remained with the health corps physician, who explained history-taking, physical examination, and patient evaluation.

Although diagnosing and treating patients was not a major objective of the program, patient screening in the village (treating only minor problems and referring the rest to a physician) was seen as quite important. The students rotated from group to group on a weekly basis. In this way all the students had experience in each of the four areas.

The final 3 months of training were devoted to clinical skills. Although prevention and education were considered more important, it was unlikely either would be effective without all of the VHWs seeing and treating sick patients. Villagers are primarily interested in being taken care of when they are sick; they are not likely to respect someone who talks to them but provides no relief for their ailment, however minor. Given this fact, the main rural clinical problems were identified and the VHWs were taught ways to assess them and to know whether a patient should be treated in the village or referred to a physician in Kavar or Shiraz.

In addition to seeing and treating patients at the health corps station (under the close supervision of the health corps physician), the VHWs made numerous field visits to nearby villages. The purpose of these visits was primarily to learn practical methods of improving village hygiene and sanitation. They sampled water supplies, carried out sanitation inspections, and visited the schools and other village centres for inspection and education.

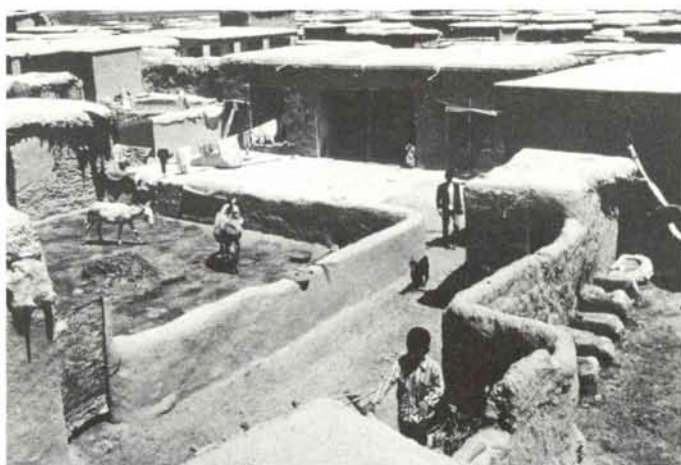
Trainees' skills and knowledge were evaluated periodically throughout their 6 months through written examinations and observation. A committee of physicians observed VHW trainees in clinical and field settings and evaluated their competence in history-taking and physical examination, recognition of symptoms, planning for treatment, administration of first aid, education of patients, VHW-patient relationship, education of villagers, data collection, and inoculation technique.

Field Work

Throughout the 6-month training phase, periodic visits to the villages and meetings in Kavar were used to familiarize the villagers with the aims of the project and to establish



A health worker examining a child in one of the villages of the Kavar project



Many small villages in Iran are isolated, sometimes inaccessible during the winter



The University Hospital in Shiraz, where patients can be referred by health corps physicians

working arrangements for the VHWs. All project villages found clinic space and provided miscellaneous equipment according to what the villagers could afford. Project funds provided basic medical supplies and other necessary items that the villagers were unable to supply.

The first class of 16 VHWs (supported by funds from IDRC) completed their training in March 1974 and were sent to villages surrounding Kavar. A second group of 30 students (supported by funds from the government of Iran) began training in the fall of 1974, and assumed their responsibilities as full-fledged VHWs in September 1975.

Depending on the size of the village, VHWs spend between 1 and 6 hours a day in the clinic, when patients are seen and treated (or are referred to the health corps station physician; eventually referrals will be made to the middle level workers), and are instructed in preventive measures to avoid a recurrence of their illness. Following their treatment activities, VHWs make home and village visits for follow-up care, to discuss family planning, sanitation, and nutrition with villagers, and to supervise sanitation projects.

In addition, the VHWs, as part of their ongoing responsibilities, keep detailed records on the number of patient visits, and the age, sex, diagnoses, and treatment of patients. Information is also recorded on their sanitation, health education, family planning, and other preventive activities, and on births and deaths in their villages. A physician visits each VHW once a week for supervision and evaluation of clinical performance, while the VHWs' nonclinical activities are supervised by the training director. The evaluation reports serve as a basis for the topics covered at the monthly continuing education meetings of the VHWs in Kavar. The VHWs also return to the training centre for a 2-week refresher course each summer.

Conclusion

Evaluation studies indicate that the VHWs are well accepted by the people and that they are influencing the health practices of the villagers. During the VHWs' first 6 months in the field, patient visits to clinic facilities numbered 4875 of a population of

9152. The percentage of females between the ages of 15 and 44 who were using family planning methods increased from 8.8 to 21.4.

In addition, the VHWs have been able to motivate the villagers to make much needed sanitation improvements, including construction of sanitary toilets and improvement of existing ones; separation of animal quarters from human living quarters; development of clean water sources (pumps and wells) and having drinking water boiled when it cannot be obtained from a clean water source; and improvement of existing bathhouses or construction of new ones where needed. Health education programs conducted by the VHWs have focused on improvements in personal hygiene, such as more frequent and regular bathing, as well as the introduction of handwashing with soap after using the toilet.

Overall, indications are that the VHWs are highly productive and well accepted in the villages they serve and that the extension of the VHW concept is not only feasible but would provide a strong foundation for Iran's developing health care delivery system. A four-tiered system is envisioned, with physicians living in cities seeing those patients referred by the health corps physician, who will in turn see those patients referred by the behdars. The health corps physician will also supervise the behdars' activities, while the behdars will supervise and see patients referred by the VHW. Physicians would therefore comprise the upper two levels, and the two auxiliary groups the lower two levels of the regionalized system of health care, which does not at present exist but that will hopefully be created in the future.



VHWs are productive and well accepted