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Integration of medical education and health services: the experience of the Islamic Republic of Iran

The integration of medical education and the health care system: the experience of the Islamic Republic of Iran

Prior to the Islamic Revolution, there was hardly a health care "system" in Iran. Preventive health care was practically non-existent, and a fairly decent curative care system could only be found in Tehran and, to a lesser extent, in a few large cities where a great majority of the 12-14 thousand Iranian physicians were practicing. Those people living in small towns and large villages had to seek the advice of foreign physicians who for the most part spoke in a different language. Poor people in general and particularly the residents of over 65,000 villages had virtually no access to medical care.

When the Islamic Revolution materialized, naturally people began to expect better health care; however, before long the imposed war began, leading to heavy daily civilian casualties on the one hand and the emigration of a fairly large number of Iranian physicians, on the other. To achieve *Health for All*, the Ministry's plan was to establish a primary health care system throughout the country, but the main problem was inadequate health manpower.

The number of medical schools, including the newly established ones, was nine and the number of students admitted annually stood at about 700, which was far too low to meet the country's needs. Every year the country was losing a large number of medical school graduates to the U.S. and a few European countries. The ratio of physicians to the population of the country was 1/2800. With the exclusion of Tehran, the ratio was 1/4000, and in some provinces, it was as low as 1/18000. In a number of provinces, there was not even one practicing obstetrician, anesthesiologist, etc.

At this point, the High Council of Cultural Revolution was established, the main goal of which was to bring about major reforms in higher education. The medical branch of the High Council, which consisted of university professors, and health and education experts, gave consideration, in detail, to the future of health and medical education. They reviewed nearly 200 proposals received from university professors and other experts. The Council finally concluded that one of the main obstacles depriving people from appropriate health care was the fact that the health care system was separate from medical education. Therefore, they decided to propose the integration of the entire health-related education program in the Ministry of Higher Education into the Ministry of Health.

Since the then Minister of Higher Education was against the idea of integration, before sending this proposal as a bill to parliament, he was asked to increase the number of health-related students in general and medical students in particular. To help this happen, the Minister of Health made special efforts to transfer every facility, including hospitals that the Minister of Higher Education had requested as a pre-requisite for increasing the number of students. Some of these hospitals were sites for residency training, but had no medical students at that time. As anticipated, the efforts of the Minister of Higher Education did not amount to a proper solution to the problem; therefore, he too agreed to proceed with integration.

In 1985, with the approval of parliament, all health-related schools and institutions were taken from the Ministry of Higher Education and integrated into the Ministry of Health, forming the Ministry of Health and Medical Education (MOH&ME). Following integration, the Ministry's best

hospitals and facilities were added to the training sites of medical and other health related students and this enabled the government to accept students in larger numbers. Residency training programs were also expanded as a result. Of course the government had to set aside funds to allow the MOH&ME to employ a larger number of faculty members. Almost simultaneously, at least one university of medical sciences (UMS) was established in each province.

At first, the provincial health organizations (PHO) continued to function and cooperate alongside the Universities of Medical Sciences in each province. In order to improve cooperation between the two organizations, during the second stage of the transformation of the Ministry, the chancellors of these universities were appointed as representatives of the Minister of Health and Medical Education, and had the authority of appointing the director general of the provincial health organizations.

Finally, to remove any possible obstacle in the path of cooperation between universities and the PHO in 1994, provincial health organizations and the universities of medical sciences were integrated, and universities of medical sciences and health services (UMS & HS) were established. Since then, the chancellors of these universities are not only responsible for education and research, but also for the health care of their entire province. The unity has made decision-making and coordination in the area of health and health manpower training much easier and it has led to many achievements in the following areas.

Achievements and Strengths

- **Health Manpower Training:**
  - The number of medical schools has increased from nine at the time of the Islamic Revolution to 51 at present, 37 of which belong to the MOH&ME.
  - There are currently 34 UMS&HS with at least one in each province.
  - The total number of students admitted to the UMS&HS last year was 17634, of which 80% were residents of the same province that they were studying, and 72.4% were girls.
  - The number of faculty members increased from 2552 in 1979 to 10,200 last year. Significantly, 31.3% of them are female.
  - The ratio of faculty members to roughly 100,000 students is now one to ten.
  - Faculty members have become more involved in community problems.
  - By modifying the curricula, more attention has been paid to the different aspects of health.
  - Not too long after integration, the following educational programs were either developed or expanded throughout the country:
    - The development and expantion of twenty-five different specialty care-training programs. Out of 1700 residents taking the National Board last year, 32% were female.
    - The creation of twenty-one different subspecialty-training programs. Out of 350 fellow residents, 46% were female.

- The establishment of twenty-five fellowship-training programs with 100 fellows.
- The creation of thirty-five PhD programs in health related areas. Prior to integration, there was only one such program.

- Students spend 1-4 months of their training and also a part of their internship in a variety of community settings and particularly in PHC centers.
- The establishment of skill labs in the majority of the UMS&HS to better prepare the students for clinical courses.
- In addition to regular exams, medical students must go through a comprehensive exam after their completion of the basic sciences as well as prior to their internship, residency and fellowship programs, for annual promotion during residency training, and finally the specialty and sub-specialty Boards. Almost all of these tests are regularly performed on a national basis.
- Educational Development Centers have been established in all UMS&HS.
- Departments of social medicine have been established in every medical school.
- The establishment of teacher training centers in all UMS&HS.
- Continuous structured training courses for faculty members.
- The law for Continuous Medical Education was passed and is being implemented.
- 116 research centers have been established in different UMS&HS. More attention is being paid to applied research as well as Health System Research.
- Research methodology workshops are almost continuously being held in all UMS&HS.
- Several population lab centers have recently been established.
- Following integration, the High Council for Community Oriented Medical Education was established and is chaired by the Minister of Health and ME. However, the Council has not been functional for a number of years.

Results:

- The country has become self-sufficient in health manpower.
- Integration also has created an opportunity for the Ministry of Higher Education to increase the annual admission rate of their universities.
- Almost all districts have become more or less self-sufficient in the area of specialty care, and the provinces are self-sufficient in sub-specialty care.

■ **Public Health:**

- Establishing UMS&HS in each province, has contributed significantly to the development of the provinces in general and their health services in

particular. The literacy rate was 35.5% among women and 58.9% among men in 1977. In 2004 the adult literacy rate was 75.5% for women and 84.3% for men, and the basic literacy rate was 80.5% for women and 88.8% for men.

- The social accountability of universities has increased.
- As integration practically doubled the responsibilities of the former MOH, its status among other sectors improved drastically. This created an opportunity for the UMS&HS to become increasingly involved in the process of community leadership, intersectional collaboration and partnership building for health improvement.
- UMS&HS have brought advanced health services to even the most deprived provinces.
- Academic experts and faculty members hold managerial and policymaking positions in the health system from the ministerial level, down to the periphery.
- Almost simultaneous with integration, the Primary Health Care network was developed and expanded throughout the country. The network consists of 2324 rural health centers, 16733 health houses in the villages, 1540 health posts in slum areas, 2196 urban health centers and 328 district health centers. At present 93% of the rural and 100% of the urban population have access to health services.
- Safe drinking water, which was a luxury for a huge number of the urban population in the past, by 2004 was available to almost 100 % of the urban and 87.5% of the rural population, or 95% of the total population.
- 86% of the people now have access to sanitation.
- The development of an appropriate data gathering system (Vital Horoscope) at the level of health houses and health centers.
- The children's immunization rate against individual vaccines stood between 2 to 25%, while it currently stands between 95-100%.
- The Infant Mortality Rate has declined from 120 per thousand live births in 1974 to 28.6 per thousand in 2000.
- The mortality rate of children under 5 years of age was reduced from about 174 per thousand live births in 1974 to 36% per thousand in 2000.
- The Maternal Mortality Rate has decreased from 245 per 100,000 live births in 1976 to 27 per 100,000 in 2004.
- The Population Growth Rate, which was 3.9% in 1986, has been reduced to 1.2% in 2002.
- Life Expectancy which stood at 57.44 and 57.63 years for women and men in 1977, increased to73.2 and 70.1 years respectively by the year 2003.

Challenges:

The quality and even the length of training programs in the community and ambulatory facilities are far from ideal.

- The curricula are not up to date and incentives for active participation of faculty members in the field and ambulatory care training are inadequate.
- Full time working is not attractive enough for faculty members to give up their private practice.
- Integration has not materialized at every level of education, health care and management.
- The current stratification of services and the referral system are not bringing about the desired results.
- Universities are still not as accountable to the community as they should be and their desire for community participation and intersectional collaboration is limited.
- The share of health care and health manpower training from the country's GDP is very low.
- People are not happy with the existing health insurance policies. The out of pocket payment is too high and that is against health equity.
- Living conditions for health workers to reside in deprived area is not attractive and their salary is too low.

It seems that in order to meet these challenges, among other actions, the High Council of Community Oriented Medical Education (COME) should be reactivated and every effort should be made to make health related training, including medical education, as community oriented as possible.

Recent evaluations of integration

Similar to any new action or reform, the subject of integration from the very beginning was faced with a variety of opinions. Its opponents more than once even tried to disintegrate the MOH&ME through the Parliament but with no success.

By and large, the main arguments voiced by its opponents seem to be non-scientific and often based on rumor. Some opponents somehow believe that if health manpower training is moved to the Ministry of Higher Education, then all financial, managerial, and educational problems will be solved.

Not too long ago a number of faculty members who were considered to be among the strongest opponents of integration, were appointed as the minister and deputy ministers of the MOH&ME, and one of their main objectives was to disintegrate the Ministry. This was also the initial opinion of the then President of the Islamic Republic of Iran as well. However, after conducting at least two known researches and becoming closely involved with the nation's health issues, they concluded that integration and its continuation was the best option for the country. They also wrote a formal letter to the President and Parliament confirming this.

continued their efforts in favor of disintegration. As a result, the ministry of H&ME asked for the support of the Eastern Mediterranean Regional Office (WHO) to carry out a comprehensive and impartial evaluation of integration. An evaluation team was formed composed of a national advisory team and a group of international consultants. The aim of the team was to study the country's:

- Health services governance, delivery, resources and partnership.
- Medical education governance, process-output-outcomes, resource management, and partnership.
- Interests and expectations of major stakeholders.

More than 200 major stakeholders, including opponents and proponents participated in the study. Different methods were used, including open discussions, small (focus) group work, site visits, individual approaches as well as a questionnaire with 79 scored questions (Likert Scale) and one general Multiple Choice Question which were given mainly to professors and experts. Evaluation work is still under process, and it is anticipated that the results will be documented and distributed soon.

The way forward:

As defined by the World Health Organization: "Health is a state of optimal physical, mental and social well-being, and not merely the absence of disease and infirmity." According to this definition, health personnel are responsible for prevention and protection along with the promotion of health for the individual as well as the community. However, graduates of medical schools traditionally see themselves as only responsible for curative medicine. This is not necessarily an individual choice, but it is largely related to how medical doctors are trained.

Usually the trend is, the sicker the patient, the more sophisticated the equipment, and the more unusual the circumstances, the higher the pride and prestige for the physician. The main reason for this is that almost all of the training program for medical students and residents takes place at the bedside of patients and very little if any at appropriate ambulatory care facilities and none at the community level.

After being cured, patients regularly return to the same conditions faced before their illness. They are not equipped with the knowledge of how to take care of themselves, nor are they properly informed on how to prevent similar situations in future, let alone how to live and enjoy a better life and how to promote their health along with that of their families and community. Mental health is neglected to a great extent, and social well being is not seriously taken into consideration.

If this global picture is to be changed, among other important steps, the curricula of health related education in general, and that of medical students in particular should be revised, and training should take place under different settings. To bring about such a major change, universities and health services must work together harmoniously.

The experience of the I.R. of Iran shows that the integration of medical education and health services has not only made the country self-sufficient in health manpower resources, but it is also the most appropriate, durable and at the same time economic

method of achieving community health at the highest level. Although integration has not yet evolved completely, especially in the periphery, and the situation is still far from being ideal, still the results are very encouraging. Even limited exposure so far has helped faculty members and students to become more familiar with the state of health in the community. Their realistic understanding of the environment, culture, traditions, problems, needs and potentials creates an environment for better management and opportunities for solving health related issues. Therefore, it is anticipated that longer and better-structured exposure for students as well as faculty members to community needs, the revising of the curricula, along with the creation of proper incentives for full time faculty members, will bring about more progressive changes in the outlook of faculty members as well as students. This in turn will lead to a more community oriented medical education, and help resolve many of the country's health problems.

Although no one can claim that integration is the only solution or that it can by itself solve all of the country's health problems, but it definitely is the most economic and realistic solution available. Of course, effective monitoring and evaluation has to be a continuous and integral part of the system.

As the concept has been found to be effective and forward looking, WHO should be supported in its attempts to advocate the adaptation of the approach in the countries of the Eastern Mediterranean Region in accordance with the political, cultural and economic conditions of these countries.

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