

ORIGINAL ARTICLE

The Challenges of Medical Education during the Second Pahlavi Era (1941-1978)

Abstract

Following the Second World War, structural changes shadowed Iran's higher education system in medicine. Major strategies, programs, teaching methods, etc., underwent significant changes during the second Pahlavi era. This study aimed to examine, academically and historically, the transformations in medical education during the second Pahlavi era. Regardless of its intrinsic value, it elucidates the roots of many contemporary problems and issues in medical education.

This study utilizes a descriptive-analytical method within the framework of historical studies, relying on archival documents and library resources from the second Pahlavi era (statistical yearbooks, guidelines, executive programs of organizations and ministries, and historical texts of that period) in an attempt to address research questions.


The findings indicate that significant international developments, domestic public demands, fundamental structure weaknesses, and the absence of centralized policies have led to a discourse inclined towards change and improvement in medical education during the second Pahlavi era.

As a historical and continuous process, medical education is observable and dynamic. In the second Pahlavi era, it was presented and introduced as a necessary issue requiring change, directly impacting the quality of public health. This approach later led to integrating medical education into the service delivery system within the revolutionary discourse.

Key words: Medical History, Medical Education, Medical Schools, Medical policy, Public Health, Second Pahlavi era

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Introduction

Beginning about 150 years ago, the historical background of modern medical education in Iran has been rooted in transmitting medical principles, expertise, and methodologies. This ongoing phenomenon results from changes and transformations that occurred in the past. The developments that began in a continuous and uninterrupted historical trajectory from the Darolfonoon Medical School evolved into an independent medical college. During the Pahlavi era, the modernization process transitioned from the gateway of a modern government to the academic sphere and became established within the medical faculty. During the second Pahlavi era, the country's policy regarding the growth and development of universities and higher education centers was centralized around universities and medical faculties, as in the previous period. As a result of the country's political upheavals in the second half of the 1940s until the early 1950s, the execution of the Seven-Year Development Plan faced numerous challenges. Multiple displacements occurred in managing higher education and medical education methodologies during this period. Medical education during this period was presented as a necessary challenge requiring change and transformation.

The historical trajectory of medical education in Iran throughout the Pahlavi era encompasses a thorough and multifaceted process influenced by several elements (political, cultural, social, and economic), the target society, and administrative policies. Every individual facet signifies a distinct consequence shaped by broader historical and social factors, which will be examined in this research.

Background of the study

Apart from a few relatively limited research studies in the 1970s, there hasn't been much extensive research conducted on this issue. "The Guidebook of the Medical School" is a report conducted under Dr. Jahanshah Saleh, the then Dean of the Medical School at the University of Tehran. It was published under the same title by the University of Tehran Press. This collection encompassed a bulletin of educational, research, organizational, and human resources developments within the Medical School and its fields over approximately 20 years. The Shah tasked a committee to conduct a nationwide thorough study on healthcare issues in November 1972. The committee published a report in partnership with the Medical School of the University of Tehran, the Ministry of Health, the Medical Council, educational universities, healthcare facilities, and the Imperial Organization for Social Services in 1974.

A research project titled "Methods of Developing Health and Medical Services in Iran" began in West Azerbaijan in February 1972. It was initiated in collaboration with the World Health Organization, the Ministry of Health, the School of Public Health, the Institute of Health Research, the Imperial Organization for Social Services, the Red Crescent Society of Iran, and the Planning and Budget Organization. The results were published as a three-volume report in English in April 1973. Moreover, a brief research project titled "Rural Health Assistant Training Program" was conducted by the Department of Social Medicine at Pahlavi University, supervised by Dr. Hossein-Ali Ronaei. This project focused on the process of training rural health assistants.

From Dar al-Funun to the Ministry of Health, Treatment and Medical Education

Medical education at Darolfonoon dates back to the initial teaching positions at the uni-



versity. Darolfonoon laid the groundwork for modern medical education at a time when, coincidentally, most Iranians were mainly ignorant of the existence of an alternative form of medicine (i.e. modern medicine). The methods of teaching medicine during the Qajar era did not differ significantly from previous centuries.

European and Iranian physicians supervised Darolfonoon's medical education. The professors specializing in this discipline maintained strong and intimate associations with the Qajar court, frequently serving as physicians to the Shah and courtiers. Particularly regarding the European physicians, the selection and employment of these medical educators had an element of political and governmental interference. Most of the foreign physicians of the Shah held positions as advisors, ambassadors, and even translators, exerting a direct influence on the court's public policies. This practice is evident in the travelogues and accounts of these foreign physicians (Demorgan, 1965, p. 75; Sheil, 1989, p. 143).

Given the prevailing conditions, Darolfonoon adapted to the educational requirements of both traditional and modern medical institutions. This institution served as a bridge to the transitional period toward modern government structures and academic systems of the 20th century. The medical field in the Qajar era delegated part of this transitional phase to the teaching positions in Darolfonoon. The medical education system at Darolfonoon balanced the debate between the two medical schools (traditional and modern) and laid the groundwork for establishing the Faculty of Medicine in Iran's first university.

The era of the first Pahlavi period marked the emergence of the first official, wide-spread academic structures for training Iranian physicians. The Medical School's intellectual and ideological founders drove the transition from Darolfonoon's medical teachings. Their main concern within the Council for the Preservation of National Health was the cultivation of committed Iranian physicians who were aware of societal issues and trained in modern medicine at the university. Around ten years following Darolfonoon, the inaugural medical institution commenced offering courses to enrolled students. In recognition of the momentous occasion, a golden statue was placed at the entrance steps to inaugurate Iran's first recognized university, attracting enormous attention.

Following the confirmation of the medical school's constitution, Professor Aberlin, a French physician, implemented substantial modifications to the institution's academic structure and administrative governance. The most significant of these changes was the educational system based on teaching positions. Under this structure, sets of courses closely related in subject matter were grouped under a teaching position, establishing, for the first time, an initial form of departmentalization in the Medical School. Also, to address the practical and experiential needs of students, hospitals of the city, i.e. maternity and nursery, and Tehran asylum hospitals were added to the Faculty of Medicine (Oberling, 1949, p. 53).

From this vantage point, it is possible to assert that modern medical education in Iran sought harmony and compatibility with the prevailing world order. Over time, it endeavored to establish institutions that could accommodate and support modern education on a social and civic level. Until then, the emphasis was mainly on at least one academic center for comprehensive education. Nevertheless, in the early 1940s, a trace of progress was made marked by the government, establishing branches of Tehran University Medical School in prominent urban centers, such as Mashhad, Tabriz, Isfahan, and Shiraz. Additionally, several projects were developed to improve the quality of medical education,



albeit in a limited capacity (Shariat, 2006, p. 14).

Modern medical education during the Pahlavi era transitioned into the academic sphere and became established within the Medical School. In the early 1970s, it emerged as a significant challenge to the country's health status. To a limited extent, the White Revolution directed medical education towards community-oriented approaches, mandating medical graduates to serve in the Health Corps stationed in villages and cities. Nevertheless, medical education was far behind international standards.

Following the Islamic revolution in Iran, medical education experienced a process of assimilation into the emerging movements and discourses inside the healthcare service system. It was placed in the newly established Ministry of "Health, Treatment, and Medical Education". During the 1980s, there was a noticeable quantitative growth in the medical education process, with the establishment of numerous medical schools nationwide. However, unresolved challenges within the medical education system necessitated a qualitative change in the 1990s, leading to significant transformations. This system underwent moderately important changes aimed at improving quality educational planning. In the 1990s, those responsible for medical education hinted at the abstraction of medical education and its potential reintegration into the Ministry of Science. Effective strategies employed to enhance medical education quality over the last thirty years include problem-solving teaching approaches, student-centeredness, faculty participation in developing and implementing new assessment methods, engagement in educational programs, community-oriented education expansion, and community-based primary healthcare education. In the document on the transformation of medical science education, these quasi-structural transformations have been mentioned as practical and effective actions in the document of the transformation in medical science education (Treatment and Medical Education, 2014).

Health development indicators and the general situation during the second Pahlavi era

According to statistics published by the Medical Council of Iran in April-May 1972, life expectancy was estimated at 47.11 years for men and 47.5 years for women in 1966 (Statistical Journal No. 4 of the Iranian Medical System, 1973).

Considering the country's economic and social development and the prevalent trend in statistical calculations, life expectancy in 1972 was announced as 69.50 years for men and 51.25 years for women. In contrast to the affluent nations of that era, which boasted life expectancies ranging from 69 to 71 years, these data suggested inadequacies in providing healthcare, treatment, and the general quality of life for the population (Statistical yearbook of the year 1350, 1972, p. 110). In 1972, out of 2769 medical units, only 1527 were in rural areas. These clinics were managed by various organizations, such as the Health Corps, Ministry of Health, Pahlavi Welfare Organization, Rural Social Insurance Organizations, and Red Lion and Sun Society (Adham, 1934, pp. 231-232).

The government spent approximately 1500 rials per year on healthcare expenses for each Iranian individual, exceeding several times the average per capita health expenditure of developing countries (Statistical yearbook of the year 1350, 1972, p. 51). However, many major healthcare issues remained unresolved. Nationwide, there were about 10,000 physicians, with 5,000 in Tehran, more than 3,000 in other cities, and only 1,500 in rural and remote areas providing services. Across the country, there were 40,000 hos-



pital beds, most (about 75%) located in Tehran and other major cities. Approximately 18 million Iranians lacked access to advanced medical facilities (Statistics and Surveys, 1973, pp. 97-125).

Even in Tehran, where the doctor-to-population ratio was 1 to 600, the majority of the population was deprived of basic medical facilities due to the lack of access to expensive medical institutions. The doctor-to-population ratio for rural areas was 1 to 10,000, while in cities, it was 1 to 3,000. In 1974, the number of graduates from the seven medical schools in Iran did not exceed 600 annually, and approximately 300 would leave the country (Rahnama, et al., 1974, pp. 13-396).

Nationwide, approximately 36% of those aged six and older were literate; of this percentage, 24% were women and 47% were men. Given the illiteracy rates of approximately 80% of rural residents and 45% of urban residents, people's understanding of health and medical standards was limited (Statistical yearbook of the year 1350, 1972, p. 110).

The Status of Health Services in the Construction Programs of the Pahlavi Era

Iran formed national development planning projects in 1948. Proposed provisions for the improvement of health and healthcare were included in these initiatives. The first national development plan, initiated in 1948-56, allocated approximately 1.5 billion Rials out of a total budget of 210 billion Rials for public health. However, no specific objectives related to health matters were explicitly mentioned. Following Clause 4 of Article 1 of this legislation, the government was mandated to proceed urban development, prioritizing public health, and agriculture development (El Yassin, 2014, p. 93).

Specific health-related objectives were not explicitly articulated in the second (1955-1962) and third (1963-1968) development plans. However, the fourth development plan (1967-1972) outlined clear goals regarding health services. The above objectives sought to incorporate various actions centered around prevention. These activities included disease prevention, illness combat, environmental sanitation, dietary improvement, health education, and treatment provision. These services were expected to be systematically and comprehensively accessible to all individuals throughout the country, necessitating research, analysis, and planning for their implementation (Nouri Hekmat, 2011).

The primary health and treatment objectives, as well as the promotion of individual health via disease surveillance and prevention, environmental health education, control, qualitative and quantitative advancements in medical services, and rehabilitation, were all considered in the fifth development plan law (1977-1982).

The following policies were outlined to achieve these objectives:

- Providing health services extensively, ideally door-to-door in rural areas.
- Establishing small mobile medical units around rural health centers.
- Training new human resources and deploying them to rural areas to provide medical services and care for infectious diseases
- Reviewing medical education by considering the provision of quantitative requirements in all primary care areas, specialized treatment, and hospitalization (Summary of the fifth development program of the country, 1352-1356, 1973, p. 24).

The prominence of healthcare-related macro policies in Iran prompted the development



of concepts including “Primary Health Care” and “Health for All” among healthcare sector specialists. Following the Islamic Revolution, these ideas were subsequently integrated into the blueprint of the nation’s innovative healthcare system.

The General Status of Doctors in the Second Pahlavi Era (Lack of Trained Doctors, Uneven Distribution, and Lack of Sufficient Expertise)

They were some traditional healers engaged in medical diagnosis and treatment in Iran during the 1970s. These were self-appointed local healers who, unlike most educated physicians, lived among lay people and intervened in public health and were known as “authorized physicians,” “herbalists,” “traditional healers,” and the like. They used prayer, ointments, concoctions, and diverse brews made from various plants and employed methods involving orthopedic actions treating diseases like fractures, dislocation, and the like. According to a 1973 report by the Health Committee, many clinics operated by untrained and traditional physicians were reported in the neighborhood of Tehran city. They had many patients and charged amounts ranging from 5 to 20 rials for treatments (Rahnama, et al., 1974, pp. 13-396).

In 1972, approximately 10,000 physicians with different proficiency, worked for a population of about 31 million. About 55% of these physicians worked in private clinics. Of the total number of physicians, equivalent to 4,464, around 47% resided in Tehran. This group predominantly had clinics in the northern part of the city and concurrently worked in many governmental, higher educational, and private institutions. A few physicians in Tehran had achieved considerable wealth accumulation and fame, but most physicians had lower incomes, compared to other occupations. Perhaps this alone could be considered one of the primary reasons for them working simultaneously in various governmental and private sectors. (Statistical Journal No. 3 of the Iranian Medical System, 1972, p. 29). The employed physicians formally received an average salary of 8,000 rials, which was insufficient to meet housing costs and other personal expenditures. However, this amount varied depending on the physician’s specialization and place of residence. Generally, incomes fluctuated between 200 and 1000 rials, but the appointment fee for most physicians in the country ranged between 50 and 150 rials.

On the other hand, owing to the scarcity of trusted clinics and other health facilities, crowds of people referred to just certain physicians so much that they did not have time to examine the patients thoroughly, adversely affecting the quality of their work. Overall, the physicians and the patients were dissatisfied with the prevailing situation.

The State of Human Resources Education and Training

After establishing the University of Tehran in 1934, branches affiliated with this university were founded in various cities during the 1940s. For instance, in 1946, resolutions number 4372, dated May 5, 1946, and 5700, dated May 14, 1946, were issued by the Council of Ministers regarding establishing nursing colleges in cities. This was deemed appropriate by the University of Tehran. According to these resolutions, secondary-level nursing colleges were established in Isfahan and Shiraz. In the eighth session of the University Council in October 1947, the regulations for student education and the selection of educational staff in these universities were approved. Furthermore, during the 25th session, legislation and plans about educating midwives and nurses at provincial nursing and midwifery institutions were ratified (Hafizi, 1953, pp. 409-412). (Figure 1)



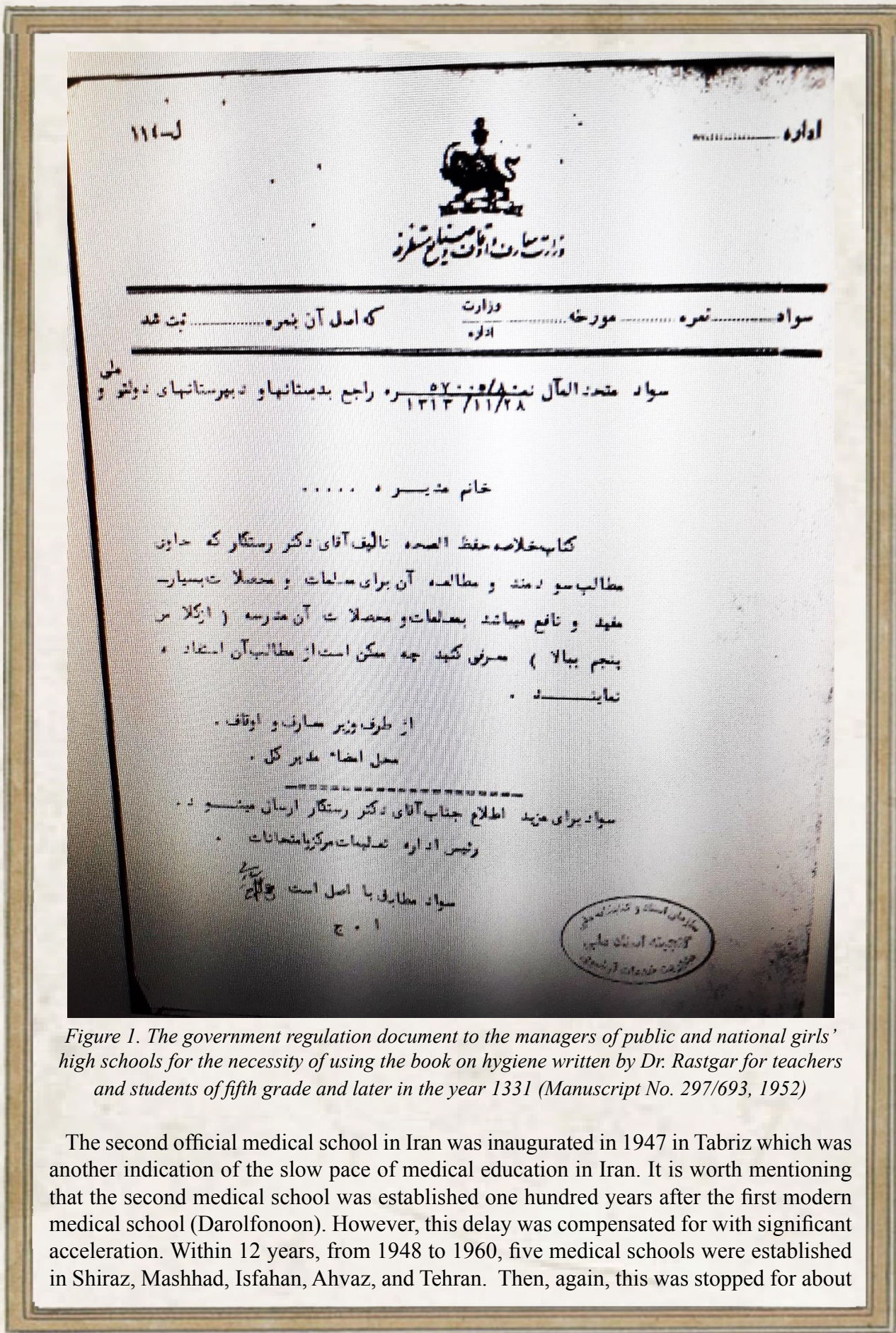


Figure 1. The government regulation document to the managers of public and national girls' high schools for the necessity of using the book on hygiene written by Dr. Rastgar for teachers and students of fifth grade and later in the year 1331 (Manuscript No. 297/693, 1952)

The second official medical school in Iran was inaugurated in 1947 in Tabriz which was another indication of the slow pace of medical education in Iran. It is worth mentioning that the second medical school was established one hundred years after the first modern medical school (Darolfonoon). However, this delay was compensated for with significant acceleration. Within 12 years, from 1948 to 1960, five medical schools were established in Shiraz, Mashhad, Isfahan, Ahvaz, and Tehran. Then, again, this was stopped for about



24 years and no progress was observed in this regard. Even an examination of the annual graduates' statistics until 1984 showed that these educational institutions were unsuccessful in accomplishing their objectives. The number of graduates from medical schools in the country was around 488 physicians in 1961 and fluctuated between 500 to 600 individuals by 1971. Only in 1972 did this number rise to 874 graduates. There were structural differences in the educational curriculum among different medical schools. For instance, while some universities, assigned a seven-year- period for medical education, Mashhad University had a three-year program called the "Research Center," where students had to complete basic science courses. At Pahlavi University, students underwent their "pre-medicine" program in the Faculty of Literature and Sciences. As a whole, in most faculties, the medical education programs were somewhat imperfect imitations of European and American university programs (Rahnama, et al., 1974, pp. 13-396).

The development plan for medical education gradually demonstrated its clear vision and increased the number of graduates compared to the previous years.

The number of graduates almost doubled every decade (approximately 31 individuals in 1931, around 63 in 1941, and 333 graduates in 1962). However, despite the increased healthcare facilities, medical resources, and educational institutions in Tehran, the graduates from the prominent universities declined, primarily because of the study period which rose to seven years in 1957.

After the Second World War, Mohammad Reza Shah initiated a shift in Iran's higher education institutions, transitioning from the French university system to American models. Consequently, from the late 1950s, efforts were made to get closer to American universities. After numerous rounds of discussions and in response to an invitation from Mohammad Reza Pahlavi to the President of the University of Pennsylvania to visit Iran, Shiraz University was placed under the direct supervision and administration of this prestigious American institution, making the most robust scientific and cultural relationships between Iran and America, which continued until the final days of the Shah's rule. The design of many courses, the development of university campuses, the training of professors, and the establishment of many Pahlavi University research and medical education institutions were entrusted to this Ivy League university. In total, at least 59 American universities played a role in developing and establishing higher education in Iran (Hussein Fereshteh, 1994, p. 13).

In line with these Iran-America relations and the implementation of the Truman Doctrine principles, the United States Agency for International Development (AID) sent experts, professors, and physicians to Iran for a six- to nine-month period every year. These individuals collaborated with Pahlavi University in Shiraz, focusing on training medical science and basic science professors. Additionally, a group of Iranian professors traveled to medical education centers in the United States to take courses in medical education (W. A., 1962, p. 27).

In 1973, Tehran Medical School was divided into four distinct colleges as one of Iran's most recent breakthroughs in medical education.

- Faculty of Basic Medical Sciences (consisting of institutes of basic sciences)
- Razi Medical School
- Thousand-Bed Medical School
- Amirabad Medical School



The specialization in medical fields gradually expanded within the faculties starting from the 1950s.

In 1972, the Health Sciences Faculty affiliated with the Imperial Social Services Organization took the initiative to train rural doctors.

Then, this field was established with modifications within the framework of the Iran Free University in 1975.

In that same year, following discussions at the Persepolis Conference and with the approval of the Ministry of Sciences, eight new medical faculties began admitting medical students.

-Iran Medical Center

-Iranshahr Medical School, affiliated with the University of Balochistan

-Fasa Medical School, affiliated with the University of Shiraz

-Rasht Medical School, affiliated with the University of Gilan

-Hamedan Medical School, affiliated with Bu-Ali Sina University

-Urmia Medical School, affiliated with Urmia University

-Bakhtarān Medical School, affiliated with Razi University in Kermanshah

-Kerman Medical School affiliated with Kerman University (Khademi, 1983, pp. 1-15)

The number of medical students and graduates from medical science education institutions in the country for the academic years 1972-1973 and 1971-1972 were as follows:

-The number of graduates for 1961-1962 was approximately 488.

-The number of graduates for the academic year 1971-1972 was approximately 874.

-The number of medical students for 1972-1973 was approximately 5,462 (Higher education statistics of Iran - Academic year 1351-52, 1972, pp. 43-47).

Authorities of the medical schools in Iran did not make sufficient efforts to improve the medical education curriculum and increase the number of graduates, thereby failing to meet the country's needs in this field. This is exemplified by the fact that in 1970, while the newly opened universities, such as Jondishapur University and the National University, did not yet graduate any medical students, the number of medical graduates in the country was 491. After a decade, this figure increased to 507 only. Additionally, the growth and expansion of these institutions did not correspond effectively to their productivity, indicating an inadequate response to society's needs, as can be inferred from the percentage increase in graduates across different periods (Statistical Journal No. 1 of the Iranian Medical System, 1970, p. 92).

Funds Allocated to Medical Education

In 1972, the funds allocated for medical science education amounted to 4,128,685,000 Riyals. The sources of these funds come from public revenues, earmarked allocations, and urban development projects. Of this amount, only 66%—approximately 2,728,881,100 Rials—was allocated to medical education. Despite the severe shortage in the country's nursing, midwifery, and paramedic workforce, only 722,347,000 Rials, which is about 17% of the allocated budget, were given to these educational programs (The report of continuous and non-continuous construction projects, 1972, pp. 262-268).

The report of the National Health Review Board stated that:

“When considering that in recent years the output of this educational process has been



significantly low compared to the corresponding allocations, we realize that the government has not failed in terms of budget and credit in this case, but it must be acknowledged that most of these credits, instead of spending on quick training and providing qualified staff, has been spent on the construction of luxurious buildings and expensive equipment. For instance, whereas the best equipment for open-heart surgery and some unnecessary items have been purchased, sometimes essential tools like forceps and general surgical instruments are insufficient in certain teaching hospitals. Consequently, these hospitals operate at partial capacity, underutilizing the available educational facilities. It seems that if these facilities were optimally utilized within a year, both in terms of quantity and quality, the output of these educational institutions could be increased and improved” (Rahnama, et al., 1974, pp. 13-396).

In the report of the central budget office affiliated with the Ministry of Interior for 1972, it is stated:

“The number of hospitalized patients in the teaching hospitals of Mashhad, Tabriz, and Jundishapur this year is unknown. It can be estimated that the total number of hospitalized patients in the country’s medical university hospitals is approximately 120,000.” Considering the significant budgets allocated to medical education and hospitals affiliated with universities, there should be a serious review and effort to reconsider the programs, objectives, and implementation methods” (The report of continuous and non-continuous construction projects, 1972, pp. 262-268).

In the late 1960s, the medical schools had a total of 5,304 academic and administrative staff members, whose distribution among different groups (educational, technical, administrative, and executive staff) was highly unbalanced (Medical education and medical coverage in rural areas of the country, 1972, pp. 43-47).

The analysis of the statistics above indicates that the allocated resources have not been fully utilized, and the number of graduates, especially in supportive roles, is not proportional to the country’s medical and healthcare needs. In these circumstances, instead of having a ratio of one nurse and four assistants for each physician, the total number of nursing, assisting, and midwifery staff roughly equals the number of physicians.

Emigration of Physicians Abroad

A significant number of graduates from medical schools left the country mostly because the related institutions failed to absorb them.

In 1970, a total of 1626 Iranian physicians migrated solely to the United States. They graduated from various medical faculties in the country, as follows:

- University of Tehran: 1240 individuals
- Pahlavi University: 219 individuals
- University of Isfahan: 72 individuals
- Mashhad University: 56 individuals
- University of Tabriz: 39 individuals (Ronagi, 1973, p. 75).

Dr. Ronagi writes in his statistical research:

“Unfortunately, the statistics on Iranian doctors living in other countries are unavailable. However, among the doctors who have resided in America, 219 individuals have stayed there for about five years, 503 between 6 to 9 years, and 863 for more than ten



years in America. The recent individuals can be considered permanent residents of America. In the same year, in 1973, 130 Iranian doctors emigrated to America. Considering that the total number of graduates from medical schools was around 600, approximately 22% of graduates have gone to America only.”

It should also be noted that some of these individuals would not return to the country. Given that the average cost of training a doctor is between 4 and 5 million Rials, one can realize the amount of loss incurred in healthcare for the country, especially considering our country’s shortage of doctors. According to statistics from the American Medical Association, in 1969, Iran was the third-largest exporter of doctors to America after the Philippines and India (Ronagi, 1973, p. 75).

The issue of “job analysis” did not come to light for two main reasons:

First, universities did not consider themselves obligated to align their graduates with the country’s needs and to educate their students for the services that the government and people expected from them. Secondly, there was no relevant healthcare network that the government or officials could rely on to define the duties of employees based on their roles within the network. There was no mechanism in place to aid higher education institutions in expediting the training and education of physicians based on these roles. Consequently, education did not meet its intended content and purpose; instead, it veered toward obtaining degrees and social status. In other words, medical higher education became diploma-oriented and somewhat a show-off program (Rahnama, et al., 1974, pp. 13-396).

The Main Challenges

-Even though, in practice, medical students did not spend more than six months in classes and laboratories. Their access to and utilization of global medical publications and information was minimal. There were significant criticisms directed towards the principles of medical education and the nature of medical education programs during the second Pahlavi era, briefly mentioned below:

-Most programs were still based on theoretical courses, often taught through limited, outdated handouts or books, and emphasized theoretical and rote learning. During the first three academic years, students neither participated in valuable practical and experimental work nor gained familiarity with their country’s specific health and medical issues.

-Practical and experimental work outlined in the programs predominantly had a clinical and hospital-based focus, mainly targeting relatively rare diseases. Throughout their studies, students had less exposure to prevalent diseases in the country and the procedures in hard conditions. Internships and service in rural and challenging environmental areas were utterly absent from the programs.

-The educational programs resembled a long, seven-year tunnel, with walls formed by the medical school and occasionally urban hospitals.

-Instead of engaging with the real issues faced by their people and country, the students spent seven years focused solely on passing the related courses, detached from the actual realities of healthcare.

Consequently, rather than becoming familiar with real-life situations, they entered professional life burdened with the mentality of a student. Living in an environment that prioritized diploma-oriented attitudes and other urban lifestyles, such as luxury, money, and fame, the nurturing process disregarded any contribution to the development of human



virtues, which are essential for the practice of a genuine physician.

-Many believed it possible to train physicians within 4 or 5 years who not only possessed the qualifications and skills of current graduates but could also fulfill their future duties more efficiently.

At that time, there were proposals for 4-year programs to obtain a bachelor's degree in medicine (this plan was executed in the Republic of China, reducing the complete medical course to three academic years or eleven months).

-The educational programs not only neglected the health and medical needs of the country and its people but also disregarded the preferences and opinions of the students, who were the primary consumers of these programs. Consequently, instead of fostering students' motivation to acquire knowledge, learn, and understand fundamental issues, the educational program subsided their interest over time.

-During medical education, the students rarely had the opportunity to serve in the country's healthcare institutions, where people from different social classes would be referred for medical help.

-Overall, educational programs suffered from quality schedules and plans of action. Programs encouraging medical students to be at the service of patients in rural areas and underprivileged populations were completely absent from the curriculum.

-The issue of student selection, which is inherently crucial for the success of any educational program, represented another negative aspect of the medical education system in Iran during the Pahlavi era. For instance, in the academic year 1970-1971, out of approximately 63,000 candidates applying to universities and higher education institutions in the country, around 15,000, which accounted for 24% of them, volunteered for medical education. Of this, only 784 individuals, representing 5% of the candidates who applied for medicine, were admitted to these medical schools (Higher education statistics of Iran - Academic year 1348-49, 1972).

-Considering the features of the nationwide university entrance exam, the majority of the university candidates, who completed their math and science courses in prestigious urban high schools, were eager to study medicine. The candidates were predominantly from larger cities and affluent social classes. Their high grade in university entrance exams was the key to choosing the top field of study which was usually medicine. This did not usually indicate their inclination toward practicing medicine as a public service to benefit all people, including the underprivileged ones. That is to say, most of the medical school candidates were not well trained to work in hard conditions. Therefore, there was a limited possibility that among the tens of thousands of candidates participating in the university entrance exams, those selected would be most capable of performing specific medical duties in the future. The selection criteria not only did not permit the entrance of individuals interested in medicine and qualified to serve in underprivileged areas and rural regions but instead favored individuals with affluent family backgrounds, groomed for working in private centers or personal clinics. They would rarely go to remote villages and underserved areas to treat the patients (Statistical Journal No. 3 of the Iranian Medical System, 1972).

-In the medical education system during the Pahlavi era, the expenses of private medical schools were practically obtained from public and governmental resources. As reported in a publication affiliated with the scientific and educational research institution:

“Although in the academic year 1972-1973, a total of 6,000 students enrolled in medi-



cal faculties across the country, these faculties consumed the most significant and substantial portions of the budgets allocated to the entire higher education institution”.

University authorities and students have no obligation or responsibility toward taxpayers, and the government funds the university expenses without practically monitoring their programs or demanding services in return for its aid. Universities are primarily concerned with continuously increasing the level of this aid on the one hand and merely improving the rank of the university in the world. Students, after graduation, are free to choose where to work; for instance, they may decide not to serve the country and, instead, migrate to Europe or America. Amidst this, no care for the opinion of the primary stakeholders—namely, the majority of the population who pay taxes and are supposed to supervise the public treasury. Perhaps many of the existing inadequacies, especially the lack of correlation between educational activities and the genuine needs of the country, stem precisely from this point. It seems everyone has forgotten a fundamental principle – the consumers of the nation’s money are expected to feel obliged to serve the people of their country. Low-income Iranians, whether rural or urban dwellers, who contribute to funding medical schools seem to have no right to ask for services they should receive in return for this money. Asking such a question is a fundamental right of any individual or entity contributing financially to the existing social system. For this reason, private educational institutions in European and American countries are quite aware that since their existence and independence stem from people’s collective will or institutions that provide an excellent source, they should be responsible toward them “ (Medical education and medical coverage in rural areas of the country, 1972, pp. 23-78).

-During this period, the only commitment obtained from graduates of the 7-year medical programs was a pledge to serve in the Health Corps, which, in reality, was considered a privilege reserved for them while fulfilling their military service. With the termination of this public commitment, the newly graduated physicians were free to work in private offices. If life in the country’s major cities did not satisfy them, they felt entitled to move to foreign countries

-The seventh principle of the White Revolution was related to establishing the Health Corps in the country. The philosophy behind creating the Health Corps was essentially the same as that of the Declaration of Land Reforms, which began on February 9, 1963. During the premiership of Asadollah Alam, the seventh principle came into effect. The task of men and women in the Health Corps was to provide medical services at any designated point across the country (Pahlavi, 1995, p. 120).

-The issue famously known as “brain drain” was another significant problem within the medical education system during the Pahlavi era. Each year, many doctors in the country seek specialization and further courses abroad, and a considerable portion remains permanently outside the country. As the standards of higher education institutions and the knowledge level of medical graduates approached the desirable criteria of Western countries, the emigration rate increased.

Undoubtedly, this emigration was not solely due to educational shortcomings but also stemmed from social and economic issues, including challenging work environments and lower developmental indicators, which perhaps played a more substantial role in this predicament.

-It should be noted that hospitals affiliated with universities had suitable facilities. However, these hospitals did not pay attention to the proper distribution of hospital beds



among various specialized fields in each medical center or ensure the availability of sufficient specialized outpatient clinics along each medical center. Sometimes, a patient was transported by ambulance from one corner of the city to another simply to be examined by a specialized physician. (Detrick, 1973, p. 173)

-Basically, the medical training programs in the country's existing medical schools failed to meet the needs of the Iranian people. As a result, medical students were not trained to become dedicated and efficient physicians. Simultaneously, there was a lack of training for health agents and the executive staff of the healthcare system to improve rural healthcare services.

Consequently, the government's investment returns in establishing hospitals and clinics in rural and urban areas were significantly low (Samirad, 1972, p. 37).

Whispers of Change in Medical Education

Although the desire for advancement and dynamism in medical education dates back to the era of changes in the Darolfonoon (pre-modern university), the Faculty of Medicine at the University of Tehran decided to implement a plan designed for the integration of medical education with the healthcare system between 1972 and 1973. This plan laid the groundwork for structural changes in Iran following the revolution. In the same year, the Minister of Science and Higher Education, in collaboration with several university professors, experts from the Ministry of Health at the time, and cooperation with the World Health Organization, examined the status of the healthcare system and medical education. The findings of this study were published in a four-volume book series titled "A Path Towards Health". This collection presented a model for establishing a healthcare network and integrating medical education with healthcare services as a revolutionary plan (Azizi, 2014, pp. 50-59).

Furthermore, the Faculty of Public Health and the Institute of Health Research ran a project, "Investigation of Healthcare Services in West Azerbaijan from 1971 to 1976. The Ministry of Health and the World Health Organization cooperated to implement the project and suggested using human resources for primary health care to people in the country's villages. This initiative, along with the experiences of other countries, led to the emergence of concepts such as "health for all" and "primary healthcare" in Iran. These concepts were integrated to establish a new healthcare system in the country following the Islamic Revolution (Executive scientific documentation of the integration of medical education and service delivery system, 2003, p. 26).

Recommended Plans for Fundamental Changes in Medical Education in the Country

1- Recognizing the Challenging Issues

A process-oriented proposal, relying on the comprehensive research findings of the "National Health Issues Review Board." was presented to the Ministry of Health. This comprehensive proposal defined and presented existing challenges in medical education, the objectives, existing strategies, implementation methods, and anticipated and potential outcomes. Its fundamental models were analyzed and evaluated during the Shiraz seminar on health education issues. This plan conceptualized education and services as two interconnected principles and two subsystems for the future comprehensive health system. This scheme, entirely based on the principles of the twenty-point report and obser-



vations of the Health System Review Board in 1974, addressed extensive and pioneering health needs concerning services and the necessary human resource training, regardless of existing models, providing comprehensive answers to the following questions.

The most critical concerns of medical education in the early 1970s in Iran, as formulated in the mentioned proposal's questions, included:

-How can educational issues be exclusively resolved based on the required services and duties within a connected service network?

-How can individuals with different educational and experiential backgrounds be trained to perform tasks at various levels of healthcare services while avoiding the following two problems:

1. Student's inclination to merely obtain higher academic credentials.

2. The emerging disappointment among individuals inclined to pursue education at lower and middle levels.

-How can short-term course volunteers be encouraged and motivated to study and serve at lower and middle levels?

-How can the spirit of serving people and working in challenging conditions in remote and rural areas be fostered in volunteers?

-What new criteria should be established for selecting volunteers so that those trained possess the necessary readiness and motivation for serving people.?

-How can we implement an educational program to reinforce students' spirit, avoid profit-seeking tendencies, curb personal fame-seeking inclinations, and neutralize their negative aspects, training creative, motivated, and practical physicians.?

-How can negative aspects of urban spirit and tendencies arising from it be prevented and make students familiar with and interested in the fundamental needs of the people, especially those in deprived, rural, and underprivileged communities?

-How can knowledge, action, theory, experience, work, and service be integrated at all stages of a student's life, making education an integral part of their life?

-How can the value of practical work be further emphasized and demonstrated to future doctors, showing them that experience and work are as influential in their scientific and practical advancement as formal education?

-How can future physicians be ensured to pursue their education free from financial concerns and have their study and service duration counted as their administrative service experience?

-How can all service providers in the healthcare network be utilized to assist educational institutions and compensate for the shortage of academic staff? How can these service providers train students to render services under different circumstances?

-What measures can be taken to design the medical education system in which medical students are encouraged to stay home, rendering healthcare services to the patient in their country and looking at their profession from a humanitarian viewpoint? In other words, considering it might not be possible to completely halt such a trend through mandatory prevention or restrictive actions, what encouraging and subtle mechanisms can be provided to reduce these tendencies? What measures should be taken to foster new goals and attachments to reduce the eagerness to live abroad and decrease the appeal of gaining acceptance from foreign universities during their studies and careers?

-How can internal system dynamics and the possibility of students' freedom of action in academic and personal affairs be resolved so that not only do their aspirations not falter



but also the primary objective of enhancing the quality of education and services at all levels is ensured?

-What measures are necessary to ensure that various disciplines related to health sciences and medical professions share similar value and status, mitigating existing disparities among them?

-How should the educational system be structured to integrate all disciplines relevant to health sciences and biomedical sciences, ranging from fundamental sciences and research to management and communications, into a unified entity? How can students be trained to be acquainted with health issues and public service networks?

- How can we conceptualize a system that incorporates these issues as an essential component of a connected system, considering their interdependencies and knowledge of new sciences, operational research, and engineering a system to resolve these concerns? (Rahnama, et al., 1974, pp. 13-396).

2- The Suggestions of the Research Board for Enhancing the System

The priorities based on which the plan is formulated are:

-Immediate and increased attention paid to training mid-level and lower-level auxiliary staff and establishing and strengthening related resources.

-Integrating the three aspects of medical education, prevention, and treatment in all activities related to national health.

-Strengthening the sciences and services related to promoting health and preventing the spread of infectious diseases.

-paying special attention to issues related to children and maternal care.

-Strengthening the sciences and services related to nutrition.

-It is necessary to reconsider long-term continuous medical courses and reduce their duration to 4 or 5 years. The duration of medical education (7 to 8 years) needs serious reconsideration. At present, this educational schedule is not a genion program, promoted by Western universities, and, in addition to imposing high costs on the Ministry of Higher Education, lacks practical and experiential approaches, leading to the students' dissatisfaction, and demotivation.

Conclusion

The era of the Second Pahlavi is perceived as a transitional period where medicine, along with professional specialization, moved towards pervasive and imposed models. Technical principles and theoretical foundations in medical sciences were merely transferred through Western channels and patterns. Medical education was posed as a severe and crisis-inducing issue that adversely affected national health, emerging as a significant challenge.

The study focused on the shortcomings of the medical education system, encompassing the methods of admitting medical students, teaching and evaluation methodologies, the quality of educational and societal interactions, medical graduates' migration, duration of medical education, the quality of centralized supervision, hardware scarcity (faculty members, university, and physical factors), and rigid political structures. However, the inclination of the elite towards effective action and their determination to accomplish change to improve public health prevailed. As detailed in the article, the primary source of foundational reforms after the revolution in Iran (establishment of the Ministry of



Health and the medical education system in the service system) goes back to structured ideas and transformative attitudes that aimed at changing the medical education system in the early 1970s.

Conflict of Interest

None.

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