

**PERSPECTIVE****Doctor Shoja-ad-Din Sheikholeslamzadeh  
and his Achievements**

Ahmadreza Afshar, MD; Majid Eyvaz Ziaei, MD; Aziz Ahmadi, MD

*Research performed at Urmia University of Medical Sciences, Urmia, Iran**Received: 18 October 2014**Accepted: 1 December 2014***Abstract**

Doctor Shoja-ad-Din Sheikholeslamzadeh (also known as Dr. Sheikh) (1931-2014) was an outstanding orthopedic surgeon. He is credited for the establishment of the Iranian Association of Rehabilitation, Shafa Yahyaian Hospital as an Orthopedic and Rehabilitation Center, the Social Welfare Organization, Iran's emergency dispatch center (115) and many other major projects that led to the upgrading of health care services in Iran. He also served as the Minister of Social Welfare and Minister of Health and Welfare before the Islamic revolution. The history of modern health care management and modern orthopedic surgery in Iran are indebted to the great leadership and executive abilities of Dr. Sheikh.

**Key words:** History of orthopedics in Iran, Shoja-ad-Din Sheikholeslamzadeh

**Dr. Sheikh, Orthopedic Surgeon**

Shoja-ad-Din Sheikholeslamzadeh (1931-2014) was born in Tabriz [Figure 1]. He graduated from Alborz high school, Tehran in 1951, then studied medicine in Tehran University and graduated as a general practitioner in 1957. He went to Akron City Hospital, Ohio, the United States of America to continue his education, first as an intern and then as an orthopedic resident (1). During his residency he became interested in rehabilitation, which was an important area of concern for Iran at that time, and attended centers that made artificial limbs for amputees. He graduated in 1963 as an orthopedic surgeon. Dr. Sheikh was trained by Dr. Walter A. Hoyt, who was an outstanding surgeon and later in 1973 became the president of the American Academy of Orthopedic Surgeons (2).

In the last year of his orthopedic residency, he was invited by the Iran Foundation located in New York to work at Shiraz University (3-5). So, he went to Shiraz to begin his orthopedics practice. He became an associate professor in the Shiraz University and became the chief of the orthopedic ward in 1963. His first operation was a hip nailing in Saadi Hospital. Notwithstanding the given promises, his work in Shiraz did not go as he desired, so he went to Tehran and started to work in private practice and in Pars Hospital.

In 1963, Dr. Sheikh with a few other orthopedic surgeons founded the primary nucleus of the contemporary

Iranian Orthopedic Association. In their regular monthly sessions they discussed the orthopedic challenges of their patients. This was one of the first contemporary scientific medical associations of its kind at that time in Iran (1).

In 1963, the Red Lion and Sun Organization provided artificial limbs for amputees under the supervision of Mr. Werner Wile from Germany, who was introduced by the Health Committee of the United Nations (1, 6, 7). He persuaded Dr. Sheikh to cooperate and accept the responsibility of technical workshops.

Among many trained students in the technical workshops of the Red Lion and Sun Organization, Mr. Tafreshi and Martic Avanesian were regarded as outstanding students. Martic Avanesian is honored as the father of orthotics and prosthesis of Iran. Unfortunately, on 15 July 2010 Avanesian was killed in a plane crash from Tehran to Yerevan on Caspian Air Lines flight 7908 (8).

In 1965, under the direction of Dr. Sheikh, the quality of artificial limbs, prosthesis and orthosis produced in the technical workshops of the Red Lion and Sun were comparable with other modern countries. In 1967, the United Nations announced that the technical center of the Red Lion and Sun was a qualified international training center and it was appointed as a center to train Asian and African students in order to produce artificial limbs. Therefore, 113 trainees from 21 countries came to Iran and trained in 6 to 12 month courses (1, 6, 7).

**Corresponding Author:** Ahmadreza Afshar, Urmia University of Medical Sciences, Department of Orthopedics, Imam Khomeini Hospital, Modaress Street, Ershad Boulevard., Urmia, 57157 81351, Iran.

E-mail: afshar\_ah@yahoo.com



THE ONLINE VERSION OF THIS ARTICLE  
ABJS.MUMS.AC.IR

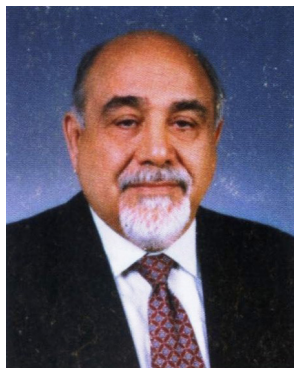


Figure 1. Shoja-ad-Din Sheikholeslamzadeh (Dr. Sheikh) (1931- 2014).

### Acquaintance with Amir-Abbass Hoveyda

In the summer of 1964, Amir-Abbass Hoveyda (1919-1979), who was the Minister of Finance at that time, had a car accident. His patella was fractured and Dr. Sheikh treated the minister by partial patellectomy in Pars Hospital, Tehran. This event was the beginning of an intimate and longstanding friendship between Dr. Sheikh and the Minister, who later became the Prime Minister of Iran from 1965-1977. After his surgery, Hoveyda used a cane to assist his weight bearing and walking. However, he liked the idea of walking with a cane and continued to voluntarily use a cane in subsequent years.

### Dr. Sheikh, the Architect of Rehabilitation in Iran

Dr. Sheikh liked social activities since his youth so he suggested to Hoveyda that they should do something for the disabled, whom a majority were suffering from the residual deformities of poliomyelitis. In 1968 the Establishment of the Association of Rehabilitation Act was ratified by the parliament and in 1969 the Association of Rehabilitation was launched. Dr. Sheikh was appointed the director of the Association which was affiliated with the Ministry of Labor. In this Association, vocational assessment of the patients was performed by a team comprised of an orthopedic surgeon, physical therapist, and vocational therapist. The principal task was to prepare disabled individuals for job employment. At that time, the patients who needed surgeries were operated on in private hospitals. Then the patients were assessed for vocational training. Vocational trainings consisted of gas and arch welding, repairing of household appliances, watch repair, camera repair, workshop machine operations, sheet metal work, office machine operations, management of store room facilities, radio and television repair, sewing and handicrafts, and radio and television assembly. In this way the Association of Rehabilitation helped many disabled individuals to be employed, earn money, and achieve an independent life.

Dr. Sheikh was the Counselor of the World Health Organization in Rehabilitation Affairs (1969-1979), the Counselor of the United Nation in Rehabilitation Affairs (1973-1979), and Vice President of Rehabilitation International Dublin-Ireland (1966-1975) (1).

### Establishment of Shafa Yahyaian Hospital as an Orthopedic and Rehabilitation Center

Very soon, it was felt that a center was needed for coordination and concentration of the different management aspects of the disabled. The best option was to centralize the managerial activities into a hospital. For more than 20 years the Ministry of Health had been constructing the Shafa Yahyaian Hospital and it seemed that it would never be finished. In 1969 a breakout of cholera developed in Tehran. The available hospital beds were not adequate for the admission of thousands of patients. Dr. Sheikh used the opportunity to start the hospital working. The hospital prepared quickly to admit the cholera patients and 70 doctors, who were starting their military draft service, were deployed to complete the hospital staff. So, Shafa Yahyaian Hospital started to work with the admission of cholera patients. During the cholera breakthrough, 5500 cholera patients were admitted and treated in Shafa Yahyaian Hospital and no death was reported.

In 1969, Dr. Marian Weiss, who was a professor of orthopedics and rehabilitation from Poland and an advisor of WHO, was invited to Iran to observe the situation and programs. He advocated the concept of integration of all the different management activities in one well-equipped hospital. Therefore, Shafa Yahyaian Hospital started to work as an orthopedic and rehabilitation center with 12 orthopedic surgeons, 3 rehabilitation specialists, 3 anesthetists, 2 radiologists, 3 pathologists, 2 general surgeons, 2 plastic surgeons, 1 neurosurgeon, and 1 anatomist in the winter of 1969. A majority of the attending physicians were trained in the US and Europe. This center had its own vocational training unit and technical workshop to produce prosthesis and orthosis. Dr. Sheikh believed that the fundamental principle must be education; therefore, training of the orthopedic residents officially begun from 1971 onward with 6 residents [Figure 2]. From that year until 1979 many eminent orthopedic surgeons from the United States, who had compiled the main text books of orthopedics, were invited to Shafa Yahyaian Hospital to participate in the education programs of the residents [Figure 3] (1, 9). Dr. Sheikh was a prolific author and with the affiliation of Shafa Yahyaian Hospital he published two articles in the prestigious Journal of Bone and Joint Surgery (10, 11).

During the second Arab-Israeli war in 1973, Dr. Sheikh suggested that, "Iran can accept some wounded soldiers". So, a delegation of surgeons including Dr. Sajadi, Dr. Shahriari, and Dr. Shayesteh (plastic surgeon) went to Jordan to choose wounded individuals. They selected more than 400 wounded soldiers to be treated in Iran, with a majority of them needing orthopedic surgeries, so the wounded soldiers were transferred to Shafa Yahyaian Hospital. Dr. Sheikh was decorated with the highest medallion of the Egyptian military. During the visit of the King of Jordan to Shafa Yahyaian Hospital, the King asked for construction of such a hospital in his country. His request was ratified and Farah Hospital, which became the main hospital in the capital of Jordan, was built in Amman by Iran.



Figure 2. Attendees and residents of Shafa Yahyaian Hospital in 1973. The man holding a white paper is Dr. Sheikh.

### The first International Congress of Orthopedics and Rehabilitation in Iran

In 1970 the first International Congress of Orthopedics and Rehabilitation was held in Tehran and Ramsar, Iran. The Prime Minister Hoveyda, the Minister of Labor, Mahler as the director-general of the World Health Organization and the president of the Rehabilitation International were the Board of Directors and Dr. Sheikh was the executive manager (12). More than 100 foreign guests attended the congress. Hoveyda was asked to present an inauguration speech to the audience. Hoveyda asked Dr. Sheikh to prepare and write important points for him. But when Hoveyda stood behind the podium, he put the manuscript in his pocket and related nothing from the written text. Instead, he said that Dr. Sheikh operated on his knee and gave him a cane. So, Dr. Sheikh has done something for him that caused him not to forget his cane and always remember disabled individuals; causing the audience to laugh. Dr. Sheikh thought about how he should answer the Prime Minister's humor before the audience. So, Dr. Sheikh told the Prime Minister, "The end of a rehabilitation program is job employment. When you were injured, you were the Minister of Finance; now you have been promoted and you are a Prime Minister. Therefore; you are the best example of a completed rehabilitation program." The audiences applauded and this comical debate was reported widely by the mass media.

### Dr. Sheikh, the Minister

In the early 1970s Iran's oil income increased dramatically. This event had positive effects on Iran's economy and had many social influences. In 1975 the Act of Establishment of a new Ministry for Social Welfare was ratified by the parliament. The purpose was to merge and coordinate the previously dispersed activities related to social welfare from the different ministries. In May 1975, because of his great leadership and executive abilities, Dr. Sheikh was appointed as the Minister of Social Welfare. Then the social health insurances were transferred to this new Ministry and they were



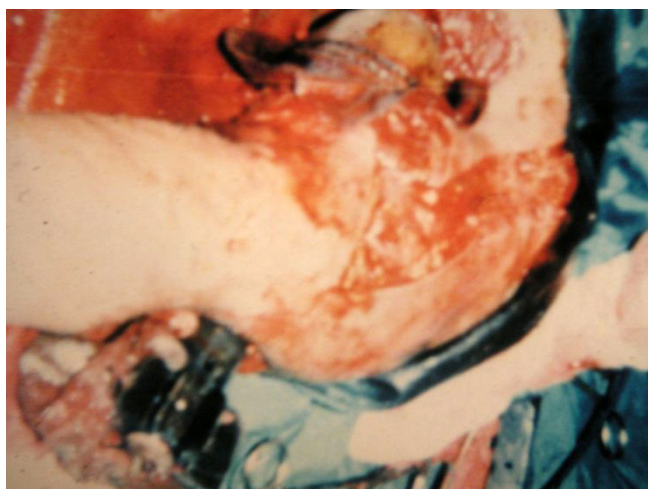
Figure 3. Dr. Sheikh (third person from the right, white arrow) and participants of the International Symposium on Scoliosis and Spinal Deformities, Shafa Yahyaian Hospital 1978, Tehran.

obliged to pay 90% of in-patients' expenses. Dr. Sheikh is credited for being the founder of the Social Welfare Organization. Dr. Sheikh contemplated to integrate the multiple health insurances together. He believed that every individual in the society should be covered by only one comprehensive health insurance; however, this goal has yet to be accomplished (13).

In February 1976, the two ministries of Health and Social Welfare integrated to establish a new Ministry of Health and Welfare. Then Dr. Sheikh was appointed as the first Minister of Health and Welfare (14).

In the early of 1970s Iran implemented several projects for the delivery of primary health care in the rural areas. One of these projects was known as the west Azerbaijan Project because its pilot study was done there in that province. In this Project, a young man and woman from a village with a minimum of primary level education were trained for 2 years in theoretical and practical courses to become community health workers (Behvarz). Then they were placed in a health house in their own village. Five health houses were supervised by a physician. The west Azerbaijan Project became the cornerstone for the nationwide delivery of Primary Health Care after the Islamic Revolution in February 1979 (15, 16).

Before the Islamic Revolution, foreign pharmaceutical companies plundered the pharmaceutical market in Iran by filling the market with useless and even inappropriate products. Therefore, a committee comprised of 25 specialists investigated the drugs in Iran's pharmaceutical market. The committee classified the drugs into four groups; group A was very necessary drugs such as insulin; group B was necessary drugs such as antibiotics; group C was luxury drugs, such as effervescent Vitamin C; and Group D was drugs that were not included in the pharma coupe. Among 4400 drugs in Iran's pharmaceutical market, 2200 were placed in group D because the pharmaceutical companies persuaded the doctors to prescribe more and more drugs from the group D. Therefore, it was decided that the health insurance had to pay only for the drugs in the groups A and B.



**Figure 4.** The left upper limb is hit by an unexploded mortar shell. The fin of the mortar is seen in the forearm.

Dr. Sheikh presented these two projects to the invited 22 regional Ministries of Health and 80 regional medical faculties' deans and universities' presidents. They had gathered in the hall of the Ministry of Agriculture. Mahler, as the director-general of the World Health Organization praised the two projects (12).

Before the administration of Dr. Sheikh, the Ministry of Health had signed a contract with a British company to construct a hospital in Iran. However, the British company had assigned the price for each hospital bed more than ten times the actual price. The hospital was exactly the same as any another hospital that was under construction in York. So, Dr. Sheikh discussed the matter with Barbara Castle, who was the British Secretary of State for Social Services of that time and compelled the British company to reduce the expenses to the actual price (17). Meanwhile, Dr. Sheikh pointed out some flaws of the York hospital. After the inauguration of the hospital in York and disclosing of its faults, Barbara Castle said, "she was ashamed to say that Iranians notified us much before the radio and television about the faults of that hospital." This story has been written in two books; Money Rush and Anglophobia (18, 19).

During his administration, an investigation showed that bed expenses in different hospitals varied, with highly unusual figures. The expenses for each bed in university hospitals, military hospitals, Red Lion and Sun hospitals and other hospitals affiliated with the government were ten times that of private hospitals. The investigation also found that patients stayed on the beds and waited for surgery for many days and even weeks. Dr. Sheikh suggested that hospitals must be self-sufficient and the doctors employed for full time service. To reduce the time of bed occupation by patients a plan known as "Fee for Service" was developed. In that plan every doctor gained some extra money from the treatment as well as his/her salary. This concept was followed in the subsequent years and even after the Islamic Revolution. At that time there was no standard for payments for medical,



**Figure 5.** The left upper limb is hit by an unexploded mortar shell. The head of the mortar is seen in the posterior aspect of the arm.

surgical, and diagnostic services. Therefore, the Current Procedural Terminology (CPT) codes were adopted from the American Medical Association and translated to Farsi. This translation became a standard for relative value of health care services in Iran and accepted by the health insurances to pay for performance.

The above experiences have founded the basis of today's primary health care management in Iran.

### **Establishment of Iran's Emergency Dispatch Center 115**

On December 5, 1974 the roof of Mehrabad Airport (Tehran) collapsed due to the heavy weight of snow and probably the energy emitted from the giant jet engines. At that time, there was no comprehensive system to assist, transport, and accommodate mass casualties in the available hospitals in the country. This event triggered the establishment of a comprehensive Emergency System for Iran. Walter A. Hoyt, the former teacher of Dr. Sheikh, was called on the assist in this matter (2). Hoyt was the first physician commissioned by the American College of Surgeons and American Academy of Orthopedic Surgeon (AAOS) to develop a program for training emergency technicians and transportation of the patients in the USA. He prepared a large committee and arranged the program and developed the first edition of "Emergency Care and Transportation of the Sick and Injured". This book became the standard book for emergency medical services in the United States. Dr. Hoyt sent three technicians to Iran to train technicians for the Iranian emergency system. First, Tehran Emergency begun to work, then it was integrated with the emergency systems in the other cities and Roads Emergency, which was directed by the Ministry of Roads. In 1976, Iran completed a comprehensive network for transportation and pre-hospital care of the patients. During that time, the emergency phone number was 123, but it has been changed to 115. Iran was the second country after the United States to develop a comprehensive emergency

network for transportation of patients. None of the European countries had such an emergency system at that time (20).

The life of Dr. Sheikh had ups and downs. He was a successful orthopedic surgeon when the number orthopedic surgeons were few in Iran. Then he became a royal minister, but was imprisoned before the Islamic Revolution in February of 1979 (21). After the Islamic Revolution he had no governmental position. However, he was never disappointed with his beneficial activities and did not give up his humanitarian endeavors.

He treated more than 2000 injured individuals during the imposed Iran-Iraq war (1980-1988). One of his exceptionally interesting cases had been hit by an unexploded mortar ordinance. This case has been reported as an extra ordinary foreign body in the upper limb in the Journal of Hand Surgery [Figure 4 and 5] (22).

Dr. Sheikh was honored as a pioneer in Hand Surgery at the Tenth International Congress of the International Federations of Societies for Surgery of Hand (IFSSH) held in Sydney, Australia 2007 (23). On Doctors' day 2013, he was honored for his services for upgrading of health care management in Iran by the Medical Council I.R. of Iran (24). He was honored for his services to modern orthopedic surgery in Iran in the Twentieth Annual Meeting of the Iranian Orthopedic Association on 14-18 October 2013 in Tehran. On 6 February 2014, he was

honored for all of his endeavors during his practice (25). Dr. Sheikh died of pancreatic and prostatic cancer in the summer of 2014.

In the last days of the Dr. Sheikh's life his students established an orthopedic foundation to continue his endeavors for orthopedics education, researches and patients care. The foundation was dedicated to Dr. Sheikh and named Arta, Dr. Sheikh, foundation. This made the final days of Dr. Sheikh's life full of joy and happiness.

### Acknowledgment

Dr Shoja-ad-Din Sheikholeslamzadeh expressed his memories to the authors of the current essay in several sessions during the summer of 2012. These conversations were recorded and some parts have been used for preparing of the current essay.

Ahmadreza Afshar MD  
Department of Orthopedics, Urmia University of Medical Sciences, Urmia, Iran

Majid Eyvaz Ziaei MD  
Mehrad Hospital, Tehran, Iran

Aziz Ahmadi MD  
Iran Mehr Hospital, Tehran, Iran

### References

1. Eyvaz Ziaei M. A glance to history of orthopedics in Iran. First ed. Tehran: Iranian Orthopedic Association; 2005 [Persian].
2. Pollack P. In memoriam: Walter A. Hoyt, Jr., MD. Available at: <http://www.aaos.org/news/bulletin/may07/youraaos12.asp>. Accessed on October 10, 2014.
3. Nasr K. Shiraz University School of Medicine: its foundation and development. Arch Iran Med. 2009; 12(1):87-92.
4. Azizi MH, Bahadori M, Raees-Jalali GA. In commemoration of Haj Mohammad Nemazee (1895-1972): the founder of Nemazee Hospital in Shiraz. Arch Iran Med. 2009; 12(3):321-4.
5. Azizi MH. A brief history of the establishment of Shiraz Medical Auxiliary Training School: the forerunner of Faculty of Medicine at Shiraz University. Arch Iran Med. 2006; 9(3):295-8.
6. The Iranian Scientific Association for Orthotics & Prosthetics. Martic Avanesian. Available at: <http://www.isaop.ir/find.php?item=1.182.60.fa>. Accessed on October 10, 2014.
7. The Iranian Scientific Association for Orthotics & Prosthetics. The history and evolution of Orthotics and Prosthetics. Available at: <http://www.isaop.ir/find.php?item=1.168.11.fa>. Accessed on October 10, 2014.
8. Martic Avanesian. Available at: [http://fa.wikipedia.org/wiki/%D9%85%D8%A7%D8%B1%D8%AA%DB%8C%DA%A9\\_%D8%AF%D8%B1%D8%A2%D9%88%D8%A7%D9%86%D8%B3%DB%8C%D8%A7%D9%86](http://fa.wikipedia.org/wiki/%D9%85%D8%A7%D8%B1%D8%AA%DB%8C%DA%A9_%D8%AF%D8%B1%D8%A2%D9%88%D8%A7%D9%86%D8%B3%DB%8C%D8%A7%D9%86). Accessed on October 10, 2014.
9. Alami Harandi B. History of Contemporary Medicine in Iran. History of orthopedics in Iran. 2008; 8(1): 70-72.
10. Shahriaree H, Sajadi K, Silver CM, Sheikholeslamzadeh S. Excisional arthroplasty of the elbow. J Bone Joint Surg Am. 1979; 61(6):922-7.
11. Sheikholeslamzadeh S, Aalami-Harandi B, Fateh H. Spondylolisthesis of the cervical spine. Report of a case. J Bone Joint Surg Br. 1977; 59(1):95-6.
12. Halfdan T. Mahler. Available at: [http://en.wikipedia.org/wiki/Halfdan\\_T\\_Mahler](http://en.wikipedia.org/wiki/Halfdan_T_Mahler). Accessed on October 10, 2014.
13. History of Ministry of Social Welfare. Available at: <http://www.mcls.gov.ir/fa/aboutus/tashkillaw>. Accessed on October 10, 2014.
14. Azizi MH. The historical backgrounds of the ministry of health foundation in Iran. Arch Iran Med. 2007; 10(1):119-23.
15. Amini F, Barzgar M, Khosroshahi A, Leyliabadi G. An Iranian Experience in Primary Health Care: The West

- Azerbaijan Project. New York, NY: Oxford University Press; 1983.
16. Malekafzali H. Primary Health Care in the Rural Area of the Islamic Republic of Iran. *Iranian J Publ Health*. 2009; 38:69-70.
  17. Barbara Castle. Available at: [http://en.wikipedia.org/wiki/Barbara\\_Castle,\\_Baroness\\_Castle\\_of\\_Blackburn](http://en.wikipedia.org/wiki/Barbara_Castle,_Baroness_Castle_of_Blackburn). Accessed on October 10, 2014.
  18. Duncan A. Money Rush. New York City: Doubleday Publishing; 1979.
  19. Tolouei M. Anglophobia. Tehran: Hafteh Publishing; 1990 [Persian].
  20. Emergency Medical Services. History of Country Emergency 115. Available at: <http://ems115.behdasht.gov.ir/index.aspx?siteid=105&pageid=28984>. Accessed on October 10, 2014.
  21. Aryanpour A. Behind the tall walls. Tehran: Varjavand publication; 2003.
  22. Afshar A, Sheikholeslamzadeh S, Ziaei ME. First hand: unexploded mortar shell in an upper extremity. *J Hand Surg Am*. 2012; 37(3): 562-3.
  23. International Federation of Societies for Surgery of the Hand. Pioneers of Hand Surgery. Available at: <http://www.ifssh.info/pioneers.html>. Accessed on: October 10, 2014.
  24. Honoring of Dr. Sheikh. Available at: <http://tebna.ir/fa/news/view/19257>. Accessed on: October 10, 2014.
  25. Honoring of Dr. Sheikh. Available at: <http://www.khabaronline.ir/detail/334991>. Accessed on: October 10, 2014.