
History of Contemporary Medicine

Development of Rheumatology in Tehran University of Medical Sciences

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Abstract

Rheumatology program at Tehran University was established by Fereydoun Davatchi in 1969. Later, Reza Moghtader, Firouz Panahi, and Amir-Khan Chafizadeh joined him. The first rheumatology outpatient clinic was founded in 1970. In 1974, the first rheumatology fellowship department was established along with a small research laboratory. The department expanded gradually to become the Rheumatology Research Center (RRC) in 1981. RRC was officially recognized in 1994 by the Ministry of Health and in 2001 as the Center of Excellence for Rheumatology in Iran.

There are 15 rheumatologists who are the teaching staff at RRC. The center has trained up to 45 rheumatologists since 1985. RRC has conducted about 150 research projects (national and international collaborative projects). It has published 14 yearly books and collaborated in the publication of seven international books. RRC has presented 207 papers in local and 337 papers in international conferences. RRC has published 50 papers in local and 178 papers in international journals.

Keywords: Rheumatology • Tehran • University

Introduction

There are 152 Board Certified Rheumatologists in Iran. Rheumatology originated in Iran four decades ago. Until the mid sixties, rheumatology in Iran was practiced by all physicians, mainly internists, orthopedic surgeons and neurosurgeons. Among them, three names were famous in Tehran for the management of rheumatic diseases: Roubin Aftandelian, Yaghoob Mohandess, and Nosratollah Sharif. They were general practitioners who were devoted to rheumatic diseases. The era of modern

rheumatology started in Tehran in the late sixties by Saeed Bani-Hashemi, Amir-khan Chafizadeh, Fereydoun Davatchi, Eshagh Eshaghof, Reza Moghtader, Firouz Panahi, Farrokh Sarkari (who studied rheumatology in France), and Mohammad Shafizadeh (who studied rheumatology in Switzerland). A few years later, Ali-Asghar Eghtedari (1970, studied rheumatology in England), Kazem Shayan (1971, studied physical medicine and rheumatology in England), Hadi Hedayati (1974, studied rheumatology in the USA), Gholam-Ali Nasseh (1975, studied rheumatology in Switzerland and pediatric rheumatology in London), Jafar Forghanizadeh (1978, studied rheumatology in the USA), and Akbar Nahavandi (1978, who studied rheumatology in the USA) joined the rheumatology community in Iran.

The Iranian Rheumatology Association (IRA) was established in 1973 under the patronage of the Iranian Medical Council. In 1978, IRA was officially recognized by the Ministry of Internal Affairs and, in 2006, by the Ministry of Health and Medical Education. The first members were: Saeed Bani-Hashemi, Amir-khan Chafizadeh, Mohammad Chafizadeh, Fereydoun Davatchi, Eshagh Eshaghof, Reza Moghtader, Firouz Panahi, Farrokh Sarkari, and Javad Vazirzadeh. At present, the Iranian Rheumatology Association has 160 members.

Academic rheumatology was started by Mohammad Chafizadeh at the former National University (now recognized as Shaheed Beheshti University) in 1967 and Fereydoun Davatchi at Tehran University in 1969. Soon, Reza Moghtader, Firouz Panahi, and Amir-Khan Chafizadeh joined Tehran University to form the backbone of academic rheumatology in Iran. In 1975 Kazem Shayan joined National University and Gholam-Ali Nasseh, Mashhad University. In 1978, Jafar Forghanizadeh joined Iranshahr Hospital (affiliated

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with the Imperial Medical Center of Iran which later became Iran Medical Center in 1979 and Iran University of Medical Sciences in 1983).

Rheumatology in Tehran University

In 1970, the first specialized rheumatology outpatient clinic was founded by Fereydoun Davatchi in former Pahlavi Hospital (now Imam Khomeini Hospital) of Tehran University. In 1974, the first rheumatology subspecialty department was created in former Daryoush Kabir Medical Center (now Shariati Medical Center), Tehran University, by Fereydoun Davatchi. The department had an inpatient ward with 16 beds, two rheumatology outpatient clinics, and a small rheumatology research laboratory. The rheumatology laboratory of Tehran University was established by two immunologists, Behrouz Nikbin with the cooperation of Nooshin Foroozanfar. Fluorescent antinuclear antibody, anti-DNA, and complement fractions C3 and C4 soon became routine tests in the rheumatology ward, were quickly adopted at Tehran Medical School, and later at other private medical laboratories. In late 1974, the Connective Tissue Diseases Outpatient Clinic and in 1977 the Behcet's Disease Outpatient Clinic were founded. These small clinics expanded to gradually become the Rheumatology Research Center (RRC) in 1981. RRC was the first research center at Tehran University of Medical Sciences (TUMS) to be officially recognized by the Ministry of Health and Medical Education in 1994 and, in 2001, was pronounced as the Center of Excellence of Rheumatology in Iran.

The second rheumatology ward in Tehran University was created by Firouz Panahi in former Pahlavi Hospital (now Imam Khomeini Hospital) in 1976. After the 1979 Islamic Revolution in Iran, more rheumatology wards were established by other universities such as: Hazrat Rassol Hospital, Iran University (Tehran) in 1990; Loghman Hospital, Shaheed Beheshti University (Tehran) in 1991; and Hafez Hospital, Shiraz University in 1970.

Rheumatology for undergraduates

In 1973, rheumatology was recognized as one of the eight fellowships of internal medicine. With the creation of the Rheumatology Department in Tehran University, the undergraduate program of internal medicine education was modified and 1/8th of its total course (16 credits, each equal to 16 teaching hours) was allocated to rheumatology

(two credits, equal to 32 teaching hours). In 1983, four years after the revolution, the Medical Division of the Revolutionary Council for Education decreased the allocated time of rheumatology teaching to 20 hours in a semester. However, TUMS continued to provide undergraduates the extended rheumatology program of 32 hours. The program consisted of historical background, epidemiology, pathophysiology, clinical manifestations, clinical presentation, laboratory investigations, and the essentials of therapeutics of common rheumatology diseases. Gradually, other universities adopted the program designed by TUMS. Since 1987, RRC has increased the rheumatology course for undergraduates to 40 hours.

Rheumatology fellowship

In 1979, Hooshang Attarian, Farhad Baygan (1980) and Mahmood Akbarian (1982) had their training courses of rheumatology in RRC. In 1985, a "National Board of Rheumatology Subspecialty" was created by the Ministry of Health and Medical Education. Fereydoun Davatchi (RRC, TUMS), Jafar Forghanizadeh (Hazrat Rassol, Iran University of Medical Sciences), Akbar Rajaei (Shiraz University of Medical Sciences), and Mohammad Shafizadeh (Shaheed Beheshti University of Medical Sciences) were the first members of the Subspecialty Board of Rheumatology. Four Iranian academic centers were recognized as qualified for rheumatology fellowship training: 1) RRC, TUMS (Tehran); 2) Shaheed Beheshti University of Medical Sciences (Tehran); 3) Iran University of Medical Sciences (Tehran); 4) Shiraz University of Medical Sciences (Shiraz). Mohammad-Reza Hatef and Farideh Ahmadi were the first rheumatologists that graduated respectively from RRC and Iran University in 1987. Mohammad-Reza Hatef, who is an affiliated member of RRC, created a rheumatology ward in Mashhad University of Medical Sciences (Mashhad), which later became another qualified center for rheumatology fellowship training. Since 1985, 45 rheumatologists have been trained and graduated from RRC, TUMS. They are all affiliated with RRC. Their names and the universities they teach in are as follows: Mohammad-Reza Hatef (1987, Mashhad University), Farhad Shahram (1991, RRC), Farhad Gharibdoost (1993, RRC), Abdolhadi Nadji (1993, RRC), Karim Mowla

(1995, Ahavz University), Asghar Hadji-Abbasi (1995, Guilan University), Ahmad-Reza Jamshidi (1996, RRC), Mohammad-Hosein Farahvash (1996, Army University), Soosan Soroush (1997, Army University), Iraj Salehi-Abari (1997, RRC), Reza Najafizadeh (1997, RRC), Mohammad-Hasan Jokar (1997, Mashhad University), Maryam Moghaddasi (1998, RRC), Shahla Abolghassemi (2000, Azad Islami University), Irandokht Shenavar (2000, Guilan University), Shafieh Movasseghi (2001, RRC), Arash Mohammadpour-Shojaee (2001, Mazandaran University), Hosein Soleymani-Salehabadi (2001, Yazd University), Mohammad-Saeed Seradj (2001, Ahvaz University), Mandana Rezazadeh (2002, Kerman University), Batool Zamani (2002, Guilan University), Nooshin Bayat (2002, Baghiatollah University), Masoomeh Akhlaghi (2003, RRC), Mehrdad Aghaii (2003, Golestan University), Abdolrahman Rostamian (2003, RRC), Habib Zayeni (2003, Guilan University), Kourosh Ghaznavi (2004, Ghom University), Mehrzad Haj-Alilou (2004, Tabriz University), Farideh Samadi (2004, Azad Islami University), Mohsen Soroush (2004, Army University), Alireza Khabazi (2005, Tabriz University), Amir-Hossein Salari (2005, Isfahan University), Sakineh-Khatoon Sharif (2005, Tabriz University), Kamal Esalat-Manesh (2006, Kashan University), Mansour Karimifar (2006, Isfahan University), Mansour Salesi (2006, Isfahan University), Tahereh Faezi (2007, RRC), Masoomeh Moobedi (2007, Shar-eKord University), Mehdi Kaffashan (2007, Ahvaz University), Mojgan Rezaipoor (2008, Kermanshah University), Ali Dehghan (2008, Yazd University), and Alireza Sadeghi (2008, Zanjan University). There are a large number of guest students from other universities who attend for short periods of one to three months.

Rheumatology department

The Rheumatology Department of Shariati Medical Center (former Daryoush Kabir) started with Fereydoun Davatchi and Amir-Khan Chafizadeh in 1974. In 1983, Mahmood Akbarian, in 1991 Farhad Shahram, in 1993 Abdolhadi Nadji and Farhad Gharibdoost, in 1996 Ahmad-Reza Jamshidi, in 2006 Masoomeh Akhlaghi, and in 2008 Tahereh Faezi joined the rheumatology staff of Shariati Hospital. In 1976, Firooz Panahi and Ali Khalvat started the Rheumatology Ward of Imam Khomeini Hospital (former Pahlavi Medical Center). In 1997 Reza Nadjafizadeh, in 2001

Shafieh Movassaghi and in 2003 Abdolrahman Rostamian joined the Imam Khomeini Hospital rheumatology ward. In 1971 Reza Moghtader and in 1997 Iraj Salehi-Abari joined the Internal Medicine Department of Amir-Aalam Hospital as rheumatologists. In 1998 Maryam Moghadassi joined as a rheumatologist of the Internal Medicine Department of Sina Hospital, followed by Ahmad Salimzadeh in 2001. The RRC of TUMS with its four branches (Shariati Medical Center, Imam Khomeini Hospital, Amir-Aalam Hospital, and Sina Hospital) had 18 rheumatologists as teaching staff (Reza Moghtader left in 1978, Firouz Panahi left in 1979, and Amir-Khan Chafizadeh passed away in 1990).

Output and accomplishment

RRC created the first Back School in Iran in 1994 to help people with low back pain understand the cause of their discomfort, its mechanism, and how to deal with their pain. The Back School has five sessions starting with anatomy, physiology, and biomechanics of the spine followed by “how to work, sit, and sleep” to put the least pressure on the spine, and finally how to exercise to strengthen the spine. With the same concern, in 1995, RRC created the Knee School for knee osteoarthritis.

RRC is the earliest center for treatment of osteoporosis in Iran, since the announcement by the WHO in 1991. The first BMD machine was installed in 1993 and RRC trained the first BMD technicians. RRC helped pharmaceutical companies to formulate and produce calcium carbonate and sodium fluoride for the treatment of osteoporosis in 1994. The first seminar on osteoporosis was organized in 1995. The first book about osteoporosis (multiauthor) was written in 1995. RRC held the first course on “How to Interpret Bone Densitometry” in 1995 and prepared the first normal curve of BMD in the Iranian general population (reference curve on Hologic machine) in 1996.¹ In addition, RRC conducted a randomized, double-blind control study to compare alendronate manufactured by Modava Company in Iran with alendronate produced by Medichem (Spain) Company in Europe; which revealed their equal efficacy in postmenopausal osteopenia and osteoporosis (data not yet published).

In 1998, RRC and the Iranian Rheumatology Association helped to create the Bone and Joint National Committee supervised by Farhad Shahram from RRC as head of the Osteoporosis

Subcommittee in the Ministry of Health and Medical Education. Iran officially joined the Bone and Joint Decade in 1998 (signature of the chart by the Ministry of Health and Medical Education), and Iran Rheumatology Association was the representative of the Bone and Joint Decade in Iran as supervised by Farhad Shahram (from RRC).

In August 2003, RRC became a member of the "Molecular Medicine Network of Iran". In the same year, RRC established its own genetic laboratory in order to take the first steps in the field of genetics in rheumatology. Since then, RRC has participated in several international projects with Austria (Professor Eveline Irschick and Professor Michael Schirmer, Innsbruck, two projects), Australia (Professor Maureen Rischmuller, Adelaide, four projects), and Portugal (Dr. Sofia Oliveira, Lisbon, one project).

RRC is the main rheumatology representative of Iran in APLAR (Asia and Pacific Area League of Associations for Rheumatology). RRC has the APLAR chairmanship of the Special Interest Group (SIG) on Behcet's Disease with Fereydoon Davatchi, co-chairman of SIG on Osteoporosis with Farhad Shahram, co-chairman of SIG on Scleroderma with Farhad Gharibdoost, and co-chairman of SIG on Systemic Lupus Erythematosus with Mahmood Akbarian. RRC has organized the following symposiums on Behcet's Disease during the International APLAR Congresses: Bali (Indonesia) 1990, Kuala Lumpur (Malaysia) 1994, Beijing (China) 2000, and Bangkok (Thailand) 2002. Collaborative studies of the APLAR SIG on Behcet's Disease resulted in two papers.²⁻³

RRC is one of the pioneers of the International Society for Behcet's Disease (ISBD) founded in 2000. Iran, via RRC, has three representatives in the Council of ISBD. The Society has organized four international conferences (2002 in Germany, 2004 in Turkey, 2006 in Portugal, and 2008 in Austria). RRC has presented a total of 85 papers in these conferences: 18 papers in Germany, 22 in Turkey, 24 in Portugal and 21 in Austria. RRC has conducted an international project with the collaboration of 27 countries for the creation of the new International Criteria for Behcet's Disease (ICBD).⁴⁻⁶ These countries and their representatives were: Austria (M. Schirmer, M. Baltaci), Azerbaijan (A. Isayeva), China (Y. Dong, Z. Zhang), Egypt (S. Assaad-Khalil), France (B. Wechsler), Germany (C. Zouboulis, A. Altenburg), Greece (Ph. Kaklamani), India (A. Kumar), Iran

(F. Davatchi, B. Sadeghi-Abdollahi, F. Shahram, A. Nadji, C. Chams-Davatchi, H. Shams, N. Zia'i, M. Akhlagi, A.R. Jamshidi, A.K. Haghdoost), Iraq (K. Sharquie, R. Hayani), Israel (Eldad Ben-Chetrit), Italy (I. Olivieri, C. Salvarani, N. Pipitone), Japan (Sh. Ohno, K. Namba), Jordan (W. Madanat), Libya (K. Elmuntaser), Morocco (S. Benamour), Pakistan (A. Ali), Portugal (J. Crespo, T. Tribolet, C. Vasconcelos, J. Correia, L. Carvalho, M. Bastos, M.J. Serra, C. Resende, F. Ramos, M. Rosa, V. Queir's, J. Vedes, C. Dias, J.V. Pato, F.P. Duarte), Russia (Z. Alekberova, A. Elonakov), Saudi Arabia (A. Al-Dalaan), Singapore (C. Yew-Kuang), Spain (G. Grana-Gil), Taiwan (W.C. Chen), Thailand (A. Emvatee), Tunisia (H. Houman, I. Ben-Ghorbel, M. Sliti-Khanfir), Turkey, and the USA (K. Calamia, J. Crooks). Data collection, processing, and criteria development were done at RRC.

In 2000, RRC began a series of epidemiologic studies in the framework of WHO-ILAR COPCORD (Community Oriented Program for the Control of Rheumatic Diseases). A pilot study was conducted in Tehran in October 2003 to test the feasibility of a COPCORD core questionnaire translated into Farsi and to evaluate the COPCORD teams (interviewers and rheumatologists) on field work performed in 168 households and interviews with 284 subjects (random selection from five districts of Tehran).⁷ The main part of the "COPCORD stage 1 urban study" started on 27th of July 2004 and ended at the end of September 2005. During the study, 4096 households were visited and 10291 persons were interviewed by random selection from 22 districts of Tehran.⁸⁻⁹ A rural study "WHO-ILAR COPCORD Study (stage 1, rural study) in Iran" in Tuyserkan County (Province of Hamedan) started on 3rd of September 2006 and ended on the 14th of September 2006. The study was conducted in five villages around Tuyserkan in 614 households and 1565 interviewed persons (data not yet published). An APLAR questionnaire to recognize the risk factors of knee osteoarthritis (stage III COPCORD) was developed with the collaboration of Bangladesh, China, Indonesia, Iran (RRC), and the Philippines. Iran (RRC) and Bangladesh completed and finalized the questionnaire in 2006. A pilot study was performed to validate the questionnaire by RRC in 2006 on 30 patients. A study on 480 patients with osteoarthritis and 490 controls was carried out in 2007 and the data was presented at the Asia Pacific League of Associations for

Rheumatology (APLAR) Congress in 2008. An APLAR questionnaire for the evaluation of low back pain risk factors has been under development by Bangladesh and Iran (by RRC) since 2007.

Research in RRC

The research units in RRC are: Ankylosing Spondylitis, Behcet's Disease, Epidemiology, Osteoporosis, Polymyositis-Dermatomyositis, Scleroderma, and Systemic Lupus Erythematosus. Each has its own electronic registry. The largest number of patients belongs to Behcet's disease with 6238 patients as of July 2008, and is registered and updated regularly. It is followed by the systemic lupus erythematosus registry containing 2195 patients.

RRC has more than 150 complete or on-going research projects. Among them, 97 (all completed) have been approved by both the RRC Research Committee and TUMS Research Committee. Twenty-one projects have been approved by the RRC Research Committee but not yet approved by TUMS. The remaining projects were proposed (and performed) before the creation of the RRC Research Committee. They were planned and conducted by RRC members. RRC projects are divided into epidemiologic studies, clinical studies (clinical evaluation of the disease, laboratory evaluation, therapeutic evaluation, and longitudinal studies), basic science, and genetics. Twelve of these projects were international collaborative studies with Australia, Austria, China, Korea, Portugal, Russia, and the US. One of the projects was an international collaboration of 27 countries for the creation of the new ICBD.

Postgraduate teaching

Since 1991, RRC has organized a weekly teaching program on Tuesdays, from 8 to 12 AM. It is both a teaching program for rheumatology fellowships and a postgraduate continuous medical education (CME) for rheumatologists. Since 2006, the CME is officially recognized by the Ministry of Health and Medical Education.

RRC has been organizing, since 1995, an annual (in February) seminar on one of the leading subjects of rheumatology. Fourteen seminars have been held up to 2008 including: Osteoporosis (1995), Rheumatoid Arthritis (1996), Low Back Pain (1997), Seronegative Spondylarthropathies (1998), Osteoarthritis (1999), Behcet's Disease (2000), Soft Tissue Rheumatism (2001), Systemic Lupus Erythematosus (2002), Osteoporosis (2003),

Vasculitis (2004), Metabolic Diseases of Bone and Joints (2005), Rheumatoid Arthritis (2006), Connective Tissue Diseases (2007), and Infection and Rheumatology (2008).

Publication

RRC has published a year book since 1995 whose subject is the same as the annual seminar. The content is an extensive up-to-date and review of the subject. The book is published in Farsi. Until now fourteen books have been published: Osteoporosis (1995), Rheumatoid Arthritis (1996), Low Back Pain (1997), Seronegative Spondylarthropathies (1998), Osteoarthritis (1999), Behcet's Disease (2000), Soft Tissue Rheumatism (2001), Systemic Lupus Erythematosus (2002), Osteoporosis (2003), Vasculitis (2004), Metabolic Diseases of Bone and Joints (2005), Rheumatoid Arthritis (2006), Connective Tissue Diseases (2007), Infection and Rheumatology (2008).

RRC has published four booklets for lay people: 1) What We Must Know about Behcet's Disease. 2) What We Must Know about Osteoporosis. 3) Sports and Osteoporosis. 4) Osteoporosis and Nutrition.

RRC has collaborated in the publication of seven international books: Behcet's Disease (1989, one article), Behcet's Disease (1993, eight articles), Behcet's Disease (1997, 11 articles), Textbook of Clinical Rheumatology (2000, one chapter), Behcet's Disease (2000, 25 articles), Adamantiades-Behcet's Disease (2002, 18 articles), and Immunology of Behcet's Disease (2003, one chapter).

RRC has participated and presented 207 papers in national conferences, seminars, and congresses and 337 papers in international ones. RRC has published 50 and 178 papers in local and international medical journals, respectively.

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