

History of Contemporary Medicine in Iran

Dr. Hossein Malekafzali: A Pioneer in Iran's Health Evolution and Development

Safoora Gharibzadeh, PhD¹; Ehsan Mostafavi, DVM, PhD^{1*}; Abolhassan Nadim, MD, PhD²; Kazem Mohammad, PhD²; Bijan Sadrizadeh, MD, PhD³; Alireza Mesdaghinia, PhD⁴; Mohammad-Mehdi Gouya, MD, PhD⁵

¹Department of Epidemiology and Biostatistics, Research Centre for Emerging and Reemerging Infectious Diseases, Pasteur Institute of Iran, Tehran, Iran

²Department of Epidemiology and Biostatistics, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran

³Iranian Academy of Medical Sciences, Tehran, Iran

⁴Center for Water Quality Research (CWQR), Institute for Environmental Research (IER), Tehran University of Medical Sciences, Tehran, Iran

⁵Center for Disease Control, Ministry of Health and Medical Education, Tehran, Iran

Abstract

Dr Malekafzali, an elite biostatistics professor at Tehran University of Medical Sciences, in his more than 50 years of glorious service, has played a crucial role in creation of fundamental evolution in public health, reproductive health and development of applied research in Iran. He has left lasting activities in administrative positions such as health and research deputies, health minister consultant, director of health faculty and director of health research institutes. He published several books and articles on statistics, epidemiology and public health. This article is a review of his worthy and interesting activities in the country's health, research and education.

Keywords: Biostatistics, Epidemiology, History of Medicine, Public Health

Cite this article as: Gharibzadeh S, Mostafavi E, Nadim A, Mohammad K, Sadrizadeh B, Mesdaghinia A, et al. Dr. Hossein Malekafzali: a pioneer in Iran's health evolution and development. Arch Iran Med. 2019;22(5):272-276.

Received: January 27, 2019, Accepted: April 7, 2019, ePublished: May 1, 2019

Childhood to Diploma

Dr. Hossein Malekafzali Ardakani was born in Ardakan, Yazd in 1939. He moved to Tehran at the age of six and then to Qom after a year to receive his high school diploma. He went to high school and learned new sciences by day and religious sciences from his father by night. In 1958, and after receiving a diploma in natural sciences, he started studying medicine at Tehran University and graduated in 1965 (Figure 1).

Serving as a Health Corps Force

After graduation, for 14 months, Dr. Malekafzali went to Chermahin Village of Isfahan as a "Health Corps Force." Using public aid, he provided valuable health services such as constructing a clinic, road and female/ male bathrooms, as well as supplying safe drinking water (Figure 2).

After that, as the top corps force, he was appointed as the chairman of the health corps of Kurdistan Province from 1967 to 1971. He provided important and valuable services in social and health services such as the vaccination and drinking water supply for villagers. He received the medal of "prosperity and progress" owing to his continuous service and hard work in Kurdistan.

Continuing Education and Teaching in Biostatistics

After serving as the head of the health corps in Kurdistan, owing to his interest in mathematics guided by Dr. Vartges Nahapetian, he took part in classes for Master of Public Health (MPH) at Faculty of Health at Tehran University. He started working as a biostatistics resident in 1972 by the advice and guidance of Dr. Abolhassan Nadim and finished the program in 1974. He became an assistant professor of biostatistics at Faculty of Health in October 1974. In 1977, he went to the University of California at Los Angeles (UCLA) with a scholarship from the World Health Organization and spent a one-year course of biostatistics in the US. He also completed his three-month medical training course at the University of South Carolina (USC) in 1992.

Although biostatistics was Dr. Malekafzali's discipline, he is considered a successful epidemiologist in Iran.

He became an associate professor in 1984 and full professor in 1991 and an academic tenured professor in 2011, and finally retired in 2015 (Figure 3).

Executive Posts

Dr. Hossein Malekafzali worked as the head of the Faculty

*Corresponding Author: Ehsan Mostafavi, DVM, PhD; Department of Epidemiology and Biostatistics, Research Centre for Emerging and Reemerging Infectious Diseases, Pasteur Institute of Iran, Tehran, Iran. Tel: +9864112120; Email: mostafavihsan@gmail.com



Figure 1. Dr. Hossein Malekafzali, the First Person Sitting on the Right, Medical Student at Faculty of Medicine, Tehran University, 1959.



Figure 2. Dr. Hossein Malekafzali as the Health Crops Force in Pasdaran Garrison, 1965.

of Public Health for 6 months in 1984 at the suggestion of the previous head of university of Tehran, and then served as the deputy of health and sub-governor of the minister at headquarters of the health network expansion for nine years from 1984 to 1991 and from 1993 to 1995 in Iran.

In addition to activities in Azerbaijan by faculty members of School of Public Health and Medicine of Tehran University from 1972 to 1974, pilot projects were designed during 1971–1974 in Kavar-Fars under the supervision of the late Majid Rahnama by Shiraz University and in Alashtar (in Lorestan), Shemiranat county (in Tehran), and Hashtgerd (in Alborz) by the Social Services organization. However, after evaluating the projects, the Azerbaijan model was recognized as an appropriate project and was selected as the basis for its implementation in the country. By developing the Iranian health network, 19 000 health houses were implemented and almost 35 000 healthcare workers were employed. A large number of health indices were significantly improved during this period. The health inequity became very low due to development of health houses in Iran. They also published a book in Farsi named, “A new way to Health.”¹⁻³

Dr Malekafzali was an advocate of the idea of

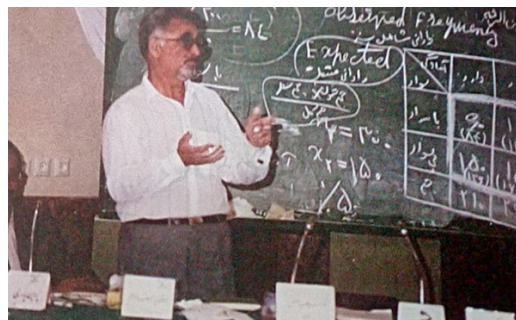


Figure 3. Teaching a Biostatistics Course at Faculty of Health, Tehran University, 1986.

integrating the Ministry of Health and Medical Sciences Universities and the establishment and implementation of “social medical groups” by medical sciences universities. In his second period of working at the health deputy, he implemented the health mediator project, which was previously performed as a trial in Rey City, and reopened the Family Health Association, an NGO, in collaboration with a group of obstetricians, gynecologists and health professionals in the reproductive health program.⁴⁻¹³ Introduction of 52 indices of health equality was also his other measure in the field of health.

Dr. Malekafzali was the vice-chancellor for research deputy of the Ministry of Health for 8 years from 1997 to 1999. In this period, he always emphasized conducting research that would serve for the health system and policymakers of the system.^{1,2,7,14-36} During this period, his major services included establishment of a clinical research center at hospitals to empower and encourage physicians to undertake clinical trials, introduce and apply the concept of Community-Based Participatory Research (CBPR),^{18,19,21,37} establishment of population research centers for the public participation in neighborhoods to solve problems based on the production of scientific evidence, establishment of a research evaluation system for research centers and scientific publications of Iran,^{26,27} connection with industry and establishment of growth centers, collaboration in empowerment of NGOs for conducting applied research, and establishment of the adolescent health plan in the health system of Iran (Figure 4).

He was the head of the Institute of Health Research at Tehran University of Medical Sciences for two years from 2007 to 2009, and the head of Family Health Research Institute at Tehran University of Medical Sciences from 2011 to 2014. Due to the request of an NGO associated with African-American populations in Mississippi State, he shared his experience in health houses with researchers of Jackson State University in Mississippi State and founded 3 health houses with the help of popular forces, Jackson State University and Shiraz University of Medical Sciences during his presence in the United States.²⁶



Figure 4. Groundbreaking Ceremony of the Cardiovascular Research Center as the Research Deputy of the Health Ministry, Isfahan University of Medical Sciences, 2001.

He still pursues the public empowerment programs to identify and prioritize existing problems and plans to solve them by utilizing local, provincial and national capacities. In this regard, their comprehensive health center of Eskan neighborhood has covered a population of more than 16,000 people from the western margin of Yazd by the Optimal Development Plan for Neighborhood Health (ODPNH) since 2016.

Dr. Malekafzali was also a member of the health consultation committee of the World Health Organization in the Eastern Mediterranean (2002–2010), and a member of the Committee of Certification of Global Eradication of Wild Poliovirus by the World Health Organization in the Eastern Mediterranean (1998–2004). Furthermore, he has been a member of the health research consultation committee of the Health Organization in Geneva (since 2004) and a faculty member of Jackson State University in Mississippi, U.S. (since 2011).

Since 2013, he has been a permanent member of the Academy of Medical Sciences. From 2014 to 2017, he was the senior advisor of the director of Islamic Azad University of Medical Sciences branch in Tehran. He has been the adviser of the director of Pasteur Institute of Iran since 2016, and he has worked as a consultant to the social deputy at the Ministry of Health from 2017 to 2018.

Papers and Books

Dr. Malekafzali has written more than 400 scientific research papers for prestigious domestic and foreign journals. He also compiled and translated 15 books about the Health Sciences and Management in Health such as methodology of applied research in medical sciences²⁶; applied epidemiology; principles of epidemiology; research on the health system; preventive and social medicine textbook³⁸ ten research steps in health-medical systems; health equity indices; national indices of health; puberty in girls; a training guide to teachers; and AIDS and sexually transmitted diseases.

In 1979, he published a book titled “Statistical Methods and Health Indices” with collaboration of Dr. Kazem

Mohammad and Dr. Vartges Nahapetian. This book has been the main reference for medical students in the last 40 years and has been edited and reprinted 16 times.³⁹

Awards and Medals

Dr. Malekafzali was the winner of the Book of the Year in the field of medicine and health in 1984. For his brilliant health and research services during his work, the Allameh Motahari (2013), Razi (1998), Avicenna (2007), and Allameh Tabatabaei Festivals (2013) awarded him. He also received a second-degree medal of service in management from the president in 2000.

In 2007, he received the award of “Population” by the United Nations for his brilliant service in the field of family health.

In 2014, the CEO of the Eastern Mediterranean Office of the World Health Organization (EMRO) praised him for his valuable services in Iran and the Mediterranean region.

To honor his services and scientific position, comprehensive health centers with his name were opened and operated in Sanandaj, Tabriz, Bojnord and Yazd cities in 2016 (Figure 5).

Family

Dr. Malekafzali married in 1961. His wife is also a physician and internist. They have three daughters; one of whom is a pediatric dentist and a faculty member of Shahid Beheshti University, the second one is a dermatologist and a faculty member at Islamic Azad University and the third one is bachelor in English.

Beliefs and Life Lessons

Dr. Hossein Malekafzali has provided valuable services for Iran’s health system particularly in the field of health as well as medical research. He is one of the outstanding health figures in Iran.

The main life lessons learned by Dr. Malekafzali can be summarized as follows:

- Responding to his father’s desire and learning the traditional lessons along with new ones to keep on track of his own and his mother’s goal to continue



Figure 5. Opening Ceremony of the Comprehensive Health Service Center of Dr. Hossein Malekafzali, Sanandaj, 2016..

- education.
- Marriage and family life and affording living expenses during his education.
- Continuing education in his favorite discipline (Biostatistics) regardless of material attractions of other medical specialties.
- Considerable interest in social activities and belief in the organized and informed public presence in managing social issues and harm.
- The pursuit of academic education and research in community education and people-centered research to realize the principle of accountability of universities and the popularization of science and technology.
- Finding and using the very best and experienced colleagues such as Dr. Shadpour and Dr. Pileroudi for development of health houses in Iran.
- Transferring the acquired knowledge about health houses to other countries.
- Work discipline, timeliness, careful monitoring of work, and belief in participation of people and all stakeholders in improving health.
- Belief in the unity of service, education and research.
- Considering prevention before treatment.

We hope to be good followers to continue this great man's way.

Authors' Contribution

The idea of writing this article was presented by EM. The first draft of the paper was presented by SG. All authors contributed to the completion and finalization of the paper.

Conflict of Interest Disclosures

The authors have no conflicts of interest.


Ethical Statement

The paper does not have any specific ethical consideration.

References

1. Malekafzali H. Primary Health Care Success and Challenges in Iran. WHO-Iran Quarterly Newsletter. 2008;4:3-4.
2. Malekafzali H. Primary health care in the rural area of the Islamic Republic of Iran. Iran J Public Health. 2009;38(Suppl 1):69-70.
3. Nasserli K, Malekafzali H, Semsar-yazdi M, Parvaz P. Mass Vaccination in Rural Area of IRAN: a Seroevaluation. Iran J Pub Health. 1983;12(1-4):1-8.
4. Malekafzali H. Maternal and child health in the Islamic Republic of Iran. Tehran: Ministry of Health and Medical Education; 1991.
5. Malekafzali H. Population and family planning programs in the Islamic Republic of Iran [in Persian]. Nabz Journal of Continuing Education. 1992;2(2):3-7.
6. Malekafzali H. Estimates of abortions resulting from unwanted pregnancies in Iran. J Fam Health. 1996;2:2-7.
7. Malekafzali H. Evaluation of helath programs of the country in the past and present, and suggestions for future programs [in Persian]. Hakim Me Res. 1999;2:63-6.
8. Malekafzali H, Azodin N, Jalali G. Use Effectiveness of IUD in a Maternity Clinic. Iran J Public Health. 1976;5(2):66-76.
9. Malekafzali H, Narges S. The health situation of mothers and children in the Islamic Republic of Iran: Ministry of Health and Medical Education; 1994.
10. Malekafzali H, Simani S, Amirkhani A, Farahtaj F, Hooshmand B, Nadim A, et al. Population control and reproductive health in the Islamic Republic of Iran. Arch Iran Med. 2004;7(4):247-50.
11. Ramezani Tehrani F, Farahmand M, Mehrabi Y, Malekafzali H, Abedini M. Prevalence of female sexual dysfunction and its correlated factors: a population based study [in Persian]. Payesh Res J. 2012.
12. Ramezani Tehrani F, Farahmand M, Simbar M, Malek Afzali H. Factors associated with sexual dysfunction; a population based study in Iranian reproductive age wome. Arch Iran Med. 2014 Oct;17(10):679-84
13. Tabeshfar Z, Holakouie Naieni K, Chaman R, Malekafzali H, Eshraghian M, Fararooei M. Factors affecting unwanted pregnancies in urban areas of kohgiluyeh and Boyer Ahmad province in 2008 [in Persian]. Armaghane Danesh. 2011;16(3):282-90.
14. Asghari S, Malekafzali H, Holakouie Naieni K, Majdzadeh R, Soleimani F, Amirsalari S. Health service utilization by mentally handicapped children and factors affecting it [in Persian]. Journal of School of Public Health and Institute of Public Health Research. 2007;5(1):29-37.
15. Larijani B, Zahedi F, Nouri M, Bagheri A, Heshmat R, Motevaseli E, et al. Ethics committees and externally-sponsored research in Iran. J Med Ethics Hist Med. 2006(Suppl 1):1-6.
16. Majdzadeh R, Forouzan AS, Pourmalek F, Malekafzali H. Community-based participatory research; an approach to deal with social determinants of health. Iran J Public Health. 2009;38(Suppl 1):50-3.
17. Malekafzali H. Report on health related research in IR Iran: a country profile. High Level Ministerial Meeting on Health Research, Accra, Ghana; 2006.
18. Malekafzali H, Abdollahi Z, Mafi A, Naghavi M. Community-based nutritional intervention for reducing malnutrition among children under 5 years of age in the Islamic Republic of Iran. East Mediterr Health J. 2000;6(2):6.
19. Malekafzali H, Bahreini F, Alaadini F, Forouzan A. Health system priorities based on needs assessment & stakeholders' participation in IR Iran [in Persian]. Hakim Res J. 2007;10(1):13-7.
20. Malekafzali H, Eftekhari MB, Hejazi F, Khojasteh T, Noot RH, Falahat K, et al. The effectiveness of educational intervention in the health promotion in elderly people. Iran J Pub Health. 2010;39(2):18.
21. Malekafzali H, Forouzan A, Eftekhari MB, Farahani MA, Vishteh HK. Community-Based Participatory Research: How Do Academicians Rate Success in Iran? Iran J Pub Health. 2009;38(Suppl 1):54-7.
22. Malekafzali H, Majdzadeh S, Fotouhi A, Tavakoli S. Applied research Methodology in Medical Sciences; Tehran: Rooyan Pajoo; 2004.
23. Malekinejad M, Mohraz M, Razani N, Akbari G, McFarland W, Khairandish P, et al. High HIV prevalence in a respondent-driven sampling survey of injection drug users in Tehran, Iran. AIDS Behav. 2015 Mar;19(3):440-9. doi: 10.1007/s10461-014-0904-y.
24. Mohammad K, Malekafzali H. National Health and Diseases Survey in the Islamic Republic of Iran. Tehran, Undersecretary for Research, Ministry of Health and Medical Education; 1999.
25. Noorbala AA, Ramazanadeh F, Malekafzali H, Abedinia N, Forooshani AR, Shariat M, et al. Effects of a psychological intervention on depression in infertile couples. Int J Gynaecol Obstet. 2008 Jun;101(3):248-52. doi: 10.1016/j.ijgo.2007.12.010.
26. Parsapoor A, Malekafzali H, Alaeddini F, Larijani B. The necessity of observing patients' right: surveying patients', physicians' and nurses' attitudes around it. J Med Ethics Hist

- Med. 2009;2(4):79-90.
27. Parsapoor A, Mohammad K, Malekafzali H, Aalaedini F, Larijani B. Regarding patients' right in Tehran University of Medical Sciences Hospitals. *J Med Ethics Hist Med.* 2009;3(1):53-64.
 28. Paydarfar AA, Malekafzali H. Sociodemographic attributes of Iranian wives who reported unwanted pregnancies. *Soc Biol.* 2001;48(1-2):105-24.
 29. Pourasghar F, Malekafzali H, Koch S, Fors U. Factors influencing the quality of medical documentation when a paper-based medical records system is replaced with an electronic medical records system: an Iranian case study. *Int J Technol Assess Health Care.* 2008;24(4):445-51. doi: 10.1017/S0266462308080586.
 30. Pouretemad HR, Naghavi HR, Malekafzali H, Noorbala AA, Davidian H, Ghanizadeh A, et al. Prevalence of mood disorders in Iran. *Iran J Psychiatry.* 2006;1(2):59-64.
 31. Ramezani Tehrani F, Malekafzali H, Peikari N, Djalalinia SH HF, editors. Peer education of reproductive health among youth. Poster session presented at: 9th ESC Congress 'Improving Life Quality through Contraception and Reproductive Health Care; 2006.
 32. Dejman M, Habibi E, Eftekhari MB, Falahat K, Malekafzali H. Pasteur Institute of Iran-An Evaluation Model. *Iran Biomed J.* 2014;18(3):189-95.
 33. Dejman M, Setareh Forouzan A, Assari S, Rasouljan M, Jazayeri A, Malekafzali H, et al. How Iranian lay people in three ethnic groups conceptualize a case of a depressed woman: an explanatory model. *Ethn Health.* 2010;15(5):475-93. doi: 10.1080/13557858.2010.488262.
 34. Djalalinia S, Owlia P, Forouzan AS, Habibi E, Dejman M, Eftekhari MB, et al. Health research evaluation and its role on knowledge production. *Iran J Public Health.* 2012;41(2):39-46.
 35. Djalalinia S, Owlia P, Malekafzali H, Ghanei M, Babamahmoodi A, Peykari N. Project monitoring and evaluation: An enhancing method for health research system management. *Int J Prev Med.* 2014;5(4):505-10.
 36. Djalalinia S, Peykari N, Owlia P, Eftekhari MB, Habibi E, Falahat K, et al. The analysis of health research system evaluation in medical sciences universities. *Iran J Public Health.* 2013;42(Supple1):60-5. Print 2013.
 37. Malekafzali H, Azedeen Zanjani A, Saadondian S, HoseiniChavooshi M. Assessment of Married Women Aged Between 15-49 Interaction with Breast Feeding Promotion Program in June 1994 [in Persian]. *Teb Tazkiyeh.* 1997;24:6-10.
 38. ShojaeuSHOJAEI P, Karimlou M, Mohammadi F, Malekafzali H. Social Determinants of Health of City Development Project. *Management in Health.* 2016;20(3).
 39. Mohammad K, Malekafzali H, Nehapetian V. Statistical methods and health indices. Tehran: Daricheh Noo; 1998.

 © 2019 The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Archive of SID