Strengthening Nursing Education and Practice in Iran: A Call for International Collaboration and Innovation

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Abstract

Nurses are the pillars of healthcare systems the world over, yet in Iran, numerous challenges continue to hinder the optimization of this vital sector. Despite a relatively young and growing workforce, Iran's ratio of nurses to population remains less than global standards, contributing to inequalities in rural health care access and urban services delivery. Limited opportunities for advanced education, high attrition, restricted access to international sources of knowledge, and infrastructural barriers to telehealth development cumulatively undermine the development of the sector. These circumstances necessitate targeted investment in nursing education, research infrastructure, professional support networks, and rural service incentives. Iran's post-pandemic telehealth development provides opportunities, but sustained policy attention is necessary to scale up these developments. Accreditation and students/staff exchange through international cooperation can also enhance Iran's nursing standards. Statistical comparisons of Iran and the world averages are highlighted in this letter, emphasizing the urgent need for systemic reforms to enhance nursing capacity, quality of education, and equitable healthcare provision. Empowering Iran's nursing workforce is not just a health imperative but a national development imperative, essential to drive universal health coverage and SDGs ahead.

Keywords: Nursing Workforce, Iran Healthcare, Nursing Education, Rural Healthcare, Telehealth

Introduction

Health systems thrive when they have strong nursing workforces. In Iran, nursing has witnessed model growth over the last decades, particularly after targeted health reforms in the early 2000s. However, despite all efforts, there remain systemic barriers to fully realizing nursing's potential contribution to addressing public health challenges. In this letter, we outline main challenges to nursing in Iran and provide strategic recommendations for reform [1, 2]. Iran has a nurse-to-population ratio of approximately 1.8 nurses per 1,000 population, which is significantly below the world average of 3.0 per 1,000 (Table 1). The shortage is even more acute in rural communities where the shortages can be as much as 35%. These disparities undermine healthcare equity, exposing rural communities to poor services and poorer health outcomes. Furthermore, although Iran's nursing population is relatively young (average age 32 years) compared with international standards (38 years), there remains a notable deficit in postgraduate education. Only 12% of Iranian nurses hold Master's or PhD degrees compared with 25% globally. Expanding access to graduate programs and easing academic nursing careers are critical steps in the direction of clinical competency and leadership capacity. Male nursing representation has increased considerably in Iran to 20%—higher than the 10% of the world average. This promising trend reflects evolving cultural norms and offers an avenue for further diversification of the profession. However, the removal of gender-related professional stigma remains necessary in order to develop an inclusive and empowered workforce of nurses [3-5].

Prohibitive turnover rates are another challenge of great concern. Nursing turnover is approximately 14% annually in Iran, which is well over the global average of 10%. Causal factors include burnout, salary dissatisfaction, limited opportunities for professional growth, and overwhelming workloads. Strategic human resource policies aimed at better working conditions, career advancement opportunities, and mental health could stem this loss. Limited access to international nursing journals significantly hampers professional and academic development. Economic sanctions have restricted Iranian universities and hospitals from subscribing to necessary journals, which suppresses research creativity and evidence-based practice. National investment in open-access initiatives and collaborative regional partnerships would bridge this critical gap [6, 7].

Although COVID-19 accelerated telehealth adoption worldwide, only 40% of Iranian health centers effectively integrated telehealth into operation, compared to 60% worldwide. Infrastructural limitations, lack of digital literacy, and legal uncertainties continue to undermine its widespread application. Investment in telehealth infrastructure and specific digital training for nurses would be strategic moves for Iran to close this gap. International accreditation of nursing schools in Iran is scarce, with only three schools accredited at WHO-equivalent standards. Strengthening accreditation processes and developing international collaborations can improve educational quality and international mobility for Iranian nurses [8].

Research productivity of Iranian nurses is growing, with around 520 Scopus-indexed articles in 2024. However, it is much lower than those of leading nations. It is essential to enhance research funding, mentorship, and publication support programs for the promotion of Iranian nurses' academic work. Overall, building a robust Iranian nursing force is both a health necessity and a pillar of national health aspiration fulfillment. Reforms in the systems of education, research, workforce governance, and international collaboration need to be given urgent priority in order to protect Iran's health system strength and equity for the future [9, 10].

Table 1: Comparative Key Statistics on Nursing in Iran and Global Averages

Indicator	Iran (Latest Available)	Global Average	Explanation	Source
Nurse-to-Population Ratio	1.8 per 1,000 people	3.0 per 1,000 people	WHO recommends a minimum of 3 nurses per 1,000 people.	[2]
Average Nurse Age	32 years	38 years	Iran's workforce is relatively young.	[8]
Percentage of Male Nurses	20%	10%	Male participation has been rising in Iran.	[9]
Graduate Degree Holders	12%	25%	Iran lags behind in advanced nursing education.	[10]
Turnover Rate	14%	10%	Burnout and dissatisfaction cause high turnover.	[3]
Access to Journals	Severely Limited	Extensive	Restricted by economic sanctions.	[4]
Telehealth Use	40% settings	60% settings	Limited post-COVID-19 expansion.	[5]
Rural Nurse Shortage	35% deficit	15% deficit	Significant rural-urban disparity in Iran.	[3]
Accredited Nursing Schools	3 schools	12–15 schools per region	Limited WHO-level accreditation.	[6]
Annual Research Output	~520 papers	~3,500 papers (USA)	Research growth remains modest.	[7]

Conclusion

Strengthening Iran's nurses is essential to ensure equitable access to quality health care across Iran. Deficits in education, research, retention, and rural service delivery necessitate rapid, collaborative action. Nursing investment enhances not just patient outcomes but also Iran's general public health capacity and national development goals. Through strategic reforms and global collaboration, Iran can set its nurses up to do even more to achieve sustainable health system gains.

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