



2528-9705



AN OVERVIEW OF THE DISTRIBUTION AND ADEQUACY OF HUMAN RESOURCES WORKING IN HOSPITALS

Carmen PANTIȘ¹, Cornel Dragoș CHEREGI^{1*}, Georgiana Albina CĂIȚĂ¹, Gheorghe SZILAGYI¹

¹Department of Surgical Discipline, Faculty of Medicine and Pharmacy, University of Oradea, 410087 Oradea, Romania.

***Corresponding Author**

E-mail: cheregicorneldragos@gmail.com

ABSTRACT

Providing human resources is one of the most important factors in achieving the goals of the organization. Human resources are considered the most valuable factor in production and service provision. Shortages and surpluses of human resources can be effective in reducing the quality of providing services to patients. This research was done to investigate the human resources situation of hospitals. The results obtained from the studies conducted on the studied hospitals show that many hospitals are facing a shortage and inappropriate distribution of medical manpower, especially nursing and medical, the manpower of support, administrative, and financial units. No specific deficiency was observed in Para clinics and paramedics. Correct management and planning of human resources about compensating personnel shortages and bringing it to the standard level can increase the efficiency and effectiveness of hospital activities. In general, in hospitals and especially in hospitals where the capacity of hospital beds is not used properly and the average occupancy of hospital beds is low, the hospital management uses less human resources and sometimes with inappropriate arrangement, which is an irreparable loss and many facilities and capacities of hospitals for which large investments have been made, remain intact.

Keywords: Human resources, Hospitals, Nursing, Medical.

INTRODUCTION

Today, human resources are recognized as a strategic factor in the organization. Experts in management science have paid increasing attention to the role and influence of human resources on other key factors of organizational productivity (Herman & Renz, 2008; Taha *et al.*, 2022; Keliddar *et al.*, 2023). The role of human resources in the field of health has received more and more attention in the first decade of the 21st century, and the World Health Organization has focused its attention on human resources in the last decade in its 2006 report (Anonymous, 2006). In the health sector, human power is considered one of the most important resources and capital, and shortages and surpluses cannot reduce the quality of providing services to patients (Sadeghifar *et al.*, 2011; Gholizadeh *et al.*, 2021; Zagade *et al.*, 2022). The development of countries and organizations is related to creativity and innovation in the development of human resources, and this need is felt more in healthcare organizations that are responsible for the mission of maintaining and improving the health of society (Sadeghifar *et al.*, 2011; Ranganadhareddy, 2022; Nguyen, 2023). Hospitals produce and supply healthcare services to

Geliş tarihi/Received: 08.12.2022 – Kabul tarihi/Accepted: 21.03.2023 – Yayın tarihi/Published: 30.03.2023

© 2023 Journal of Organizational Behavior Research. **Open Access** - This article is under the CC BY license

(<https://creativecommons.org/licenses/by/4.0/>)



society from the combination of various factors of employees, equipment, and consumables, and among the various components of the health system, hospital services are the main factor in the growth of costs (O'Reilly *et al.*, 2012; Ebrahimi *et al.*, 2021; Zreiq *et al.*, 2022). It should be noted that the situation of human resources is different according to countries. Several countries are facing a shortage of a group of doctors and healthcare specialists, and on the other hand, several countries are facing an adequate supply or surplus of these specialized groups (Imani *et al.*, 2012; Homauni *et al.*, 2021; Barman *et al.*, 2022).

The global average number of nurses and midwives per ten thousand population is 280, and this figure in the six regions of the World Health Organization is 68 in Europe, 55 in America, 21 in the Western Pacific, and 21 in the Eastern Mediterranean. 14 people, Southeast Asia 11 people, and Africa 11 people have been reported (World Health Organization, 2009). Although the health system around the world is increasingly faced with the challenge of blue manpower and inappropriate distribution of skills, recent efforts to develop human resources policies in the health system, which are mainly guided by the relevant World Health Organization and often focus on developing countries (Anonymous, 2011; AlMogbel *et al.*, 2021). Mendez *et al.* in a study titled "Human Resources Challenges in Health" stated that human resources in healthcare systems, including hospitals, play a fundamental role in reforming the management structure of healthcare centers so that employees with a commitment to a favorable organization improve the performance of medical centers in providing health and medical care (Méndez & Torres, 2010; Wahba, 2021). Jamel *et al.* in a study titled "Review of Hospital Human Resource Management", reported the unfavorable situation of human resource distribution in different departments of private and public hospitals (Jamel *et al.*, 2010). Sadeghi Far *et al.* and Arab *et al.* stated in their studies that the situation and distribution of inappropriate human resources in different units of the country's hospitals are evident (Arab *et al.*, 2011; Sadeghifar *et al.*, 2011). Considering the importance of human resources as one of the most important factors in promoting and improving the hospital's performance in providing healthcare services to society and also to create proper functions in hospitals, it is necessary to distribute and quantity of human resources in private hospitals and Government should be done in a standard way. Considering the importance of this study, it intends to examine the latest situation of human resources in hospitals.

RESULTS AND DISCUSSION

The research conducted on the human resources situation in hospitals shows that there is a shortage of medical personnel, including doctors, and nurses, as well as a shortage of nursing personnel in active beds in many Iranian hospitals (Farajzadeh *et al.*, 2006; Shahabi *et al.*, 2010; NooriHekmat *et al.*, 2014). Findings Previous studies also reported the lack of nursing manpower in hospitals, and to compensate for this shortage, patients and their assistants were used instead of trained nurses, which hurt the quality of services (Akbari *et al.*, 2011; Arab *et al.*, 2011). The distribution of nursing staff in the conducted surveys indicates the lack of proper distribution in Iran, so in terms of the distribution of nurses among the population, the highest number is related to Semnan province, and the lowest number is related to Hamadan, Kohkiluyeh and Boyer Ahmad provinces, Golestan and It was Sistan and Baluchistan (Shahabi *et al.*, 2010). In the conducted studies, the majority of studies stated the lack of doctors, especially the lack of



specialist doctors in government hospitals, as well as the disproportion in the distribution of medical staff in the country's hospitals (Shahabi *et al.*, 2010; Akbari *et al.*, 2011; Taati Kelley *et al.*, 2012).

The previous findings in the study of the distribution of specialist doctors in the country determined that Semnan and Isfahan provinces have the highest number and Golestan, Kohkiloye, and Boyar Ahmad, South Khorasan, and Sistan Baluchistan provinces have the lowest number of specialist doctors compared to the population (Abolhalaj *et al.*, 2010). The examination of the distribution index of specialist doctors in Iran's government hospitals showed that the highest and lowest index of doctors in specialized fields in the provinces of the country were respectively Yazd province with an index of 19.22 and Sistan and Baluchistan province with an index of 8.8 (Taati Keley *et al.*, 2012). The findings of the studies after examining the various clinical, paraclinical, service, maintenance, technical support, and administrative departments of the studied hospitals showed that about 19% of the units are by the standard, 17% are higher and about 64% of the units are less than the personnel standard. The Ministry of Health has the strength (Akbari *et al.*, 2012). The findings of previous studies, unlike other studies, expressed the high density of hospital support and administrative staff compared to medical staff, so that except for a few support and paraclinical units, the majority of hospitals in the country were facing an increase in the volume of staff (Abolhalaj *et al.*, 2010; Mousaali *et al.*, 2010).

In the children's medical center of Tehran University of Medical Sciences, to estimate the manpower of the hospital's reception unit, the method of measuring the time of activities was used. It is to upgrade the technology level of the unit and also to increase the number of manpower (Nishiura *et al.*, 2004). The studies conducted in Thailand (Kittidilokkul & Tangcharoensathien, 1997; Nishiura *et al.*, 2004) were faced with the inappropriate distribution of specialized human resources, including doctors, and the lack of qualified and specialized personnel in private hospitals. Studies conducted in private hospitals in Lebanon and Japan indicated a shortage of medical staff including nurses in private hospitals (Katori *et al.*, 2002; Jamal *et al.*, 2010), and hospitals in Turkey are faced with a shortage of nursing and doctor staff and a surplus of radiology and laboratory science staff (Ozcan & Hornby, 1999). In the studies conducted in different ways, in general, the lack of human resources in hospitals is evident, especially in the treatment sector, and it indicates the gap between the current situation and the optimal and standard human resources in the healthcare sector (Basiri, 2001; Dargahi *et al.*, 2013).

Balanced and proportional distribution of resources, especially human resources specialized in the health and treatment sector, is one of the factors that improve health indicators and, as a result, increases equality and social justice (Mostafavi *et al.*, 2015). The situation of the distribution and adequacy of the medical staff, including specialist doctors and nurses, in Iran, especially in remote areas, is very noticeable, which was mentioned by the majority of articles (Farajzadeh *et al.*, 2006; Shahabi *et al.*, 2010; NooriHekmat *et al.*, 2014). Various reasons were stated in the studies in this field, which include the insufficient number of specialist doctors, the lack of comfortable facilities for living in deprived areas, the way wages are paid, the limited acceptance in some specialized fields in the country (Akbari *et al.*, 2011), and among the components The causes of asymmetric distribution are usually the level of education, economic



status, gender, and geography are considered very important factors (Wahlbeck *et al.*, 2008; Vujicic *et al.*, 2009). In the countries of Albania and Greece (Theodorakis & Mantzavinis, 2005), Taiwan (Huang & Chang, 2001), Japan, and the United States (Matsumoto *et al.*, 2010), there is no distribution of specialist doctors according to the population. The Ministry of Health, Medicine and Medical Education can take appropriate measures including adopting management measures such as fulfilling the legal obligations of graduates based on their place of birth, paying special sums to serve in disadvantaged areas, sending specialist doctors to disadvantaged areas, and accurately identifying cities in need. In each province, take an effective step toward the proper distribution of specialized human resources (Taati Kelley *et al.*, 2012). In the conducted research, there were limited studies that reported the situation of inappropriate distribution of general practitioners in Iran (Haghdoost *et al.*, 2010). In Iran, in recent years, with the expansion of medical sciences universities across the country, major cities in different provinces have taken effective steps to accept medical students, which can help in the adequacy of the human resources of general practitioners in the country's hospitals (Dargahi *et al.*, 2013). The index of the current status of human resources in Iran's hospitals (doctors, nurses, and paramedics) is close to Turkey, South Korea, and Japan in terms of quantity, but there is a significant gap with advanced countries such as the United States, Sweden, the Netherlands, and Belgium (Haghdoost *et al.*, 2010). Various studies have stated that there is a shortage of nursing staff in hospital beds, which is not by the standard of the Ministry of Health (Farajzadeh *et al.*, 2006; Shahabi *et al.*, 2010; Akbari *et al.*, 2011).

The global standard for the ratio of nurses to beds is 3 nurses per bed. However, in Iran's public hospitals, it is 0.9 per bed, which is even less than one person per bed (Ministry of Health and Medical Education). According to the findings of the studies conducted in Japan, England (Horev *et al.*, 2004), and China (Matsumoto *et al.*, 2010), the situation of the nursing workforce in terms of quantity is close to the international standard of 2.6 nurses per bed, but the distribution of nursing staff in hospitals is unfair in different regions. Since the most important factor in improving the quality of performance in organizations is sufficient human power, standardizing the number and composition of nursing staff in medical centers can be an effective step in the satisfaction of patients, clients, and nursing personnel. Research studies showed that Iran's hospitals do not face a shortage of personnel in terms of other human resources such as administrative, support, financial, and service forces, Para clinical forces, and paramedics (Haghdoost *et al.*, 2010; Mousaali *et al.*, 2010; Arab *et al.*, 2011; Taati Kelley *et al.*, 2012). One of the limitations of the studies conducted in Iran was the absence of a study related to the distribution and quantity of human resources (therapeutic and non-therapeutic) in private hospitals. Also, one of the other limitations and weaknesses of this study was the lack of access to some documents and reports of government organizations in domestic and foreign countries. The insufficiency of the number of articles on different human resources made it impossible to evaluate the human resources situation from different dimensions.

CONCLUSION

Based on the findings of the research, it was found that the studied hospitals do not have a homogeneous distribution of human resources. In some units, despite the density of manpower in some positions (such as laboratory sciences, operating room radiology, intelligence, and



midwifery), positions such as medicine and nursing have a severe lack of manpower, which affects the quality of services provided. Planning related to compensating personnel shortages and bringing hospital departments to the standard level of personnel and necessary training to the department managers in connection with the correct management and planning of human resources in the departments will increase the efficiency and effectiveness of hospital activities. In general, in hospitals and especially in hospitals where the capacity of hospital beds is not used properly and the average occupancy of hospital beds is low, the hospital management uses less human resources and sometimes with inappropriate arrangement, which is an irreparable loss and many facilities and capacities of hospitals for which large investments have been made, remain intact.

ACKNOWLEDGMENTS: None

CONFLICT OF INTEREST: None

FINANCIAL SUPPORT: None

ETHICS STATEMENT: None

References

- Abolhalaj, M., Jafari-Sirizi, M., & Inalou, S. (2010). A situational analysis of human resources in Iranian hospitals affiliated with the ministry of health in 2008. *Journal of Shahrekord University of Medical Sciences*, 12(1), 60-68.
- Akbari, F., Arab, M., Momeni, K., Rahimi, A., & Bahadori, M. (2012). Situation of the necessary human resources for hospitals of Lorestan province in accordance with proposed model by the Iran's ministry of health. *Review of Global Medicine and Healthcare Research*, 3(2), 135-143.
- Akbari, F., Kovkabi, F., & Uosefian, S. (2011). Determining nurse staffing requirements at hospitals under 100 beds sample standards of the ministry of health and medical education. *Hospital*, 2(9), 70-75.
- AlMogbel, M. S., Menezes, G. A., AlAjlan, H. H., Alkhulaifi, M. M., Alghassab, O. A., Alshammari, A. F., Hazza, B., & Alshammari, S. A. A. (2021). Nosocomial Pathogens in Clinical Laboratory Departments of Various Hospitals in Ha'il, Saudi Arabia. *International Journal of Pharmaceutical Research & Allied Sciences*, 10(4), 95-104.
- Anonymous. (2006). The world health report 2006- working together for health. Available from: <http://www.who.int/whr/2006/en/>. 2006.
- Anonymous. (2011). Transformative scale-up of health professional education. Available from: http://www.who.int/hrh/resources/transformative_education/en/.2011.
- Arab, M., Fazayeli, S., Mohammadpour, M., Pirmoazen, V., & Yousefi, M. (2011). Acceptance of the estimated number of required manpower at Children's Medical Center, Tehran University of Medical Sciences ergometer method and timing of activities. *Hospital*. 1-7.



- Barman, I., Hazarika, S., Gogoi, J., & Talukdar, N. (2022). A systematic review on enzyme extraction from organic wastes and its application. *Journal of Biochemical Technology*, 13(3), 32-37.
- Basiri, M. (2001). Comparative study on how the distribution of labor in public and private hospitals in Tehran. *Science and Research Branch, Islamic Azad University of Tehran*.
- Dargahi, H., Ghazi Mirsaeid, S., Mirzaie, M., & Haghshenas, E. (2013). Human Resources Distribution Among Tehran University of Medical Sciences Hospitals. *Paramedical Faculty of Tehran University of Medical Sciences*, 7(5), 432-446.
- Ebrahimi, S., Shohrati, M., & Najafian, B. (2021). Drug use evaluation of intravenous immunoglobulin (IVIG) in a hospital in Iran. *Entomology and Applied Science Letters*, 8(2), 57-61.
- Farajzadeh, Z., Nakhaei, M., Tabiei, S., Nasiri Forg, A., & Pejmankhah, S. (2006). Comparing size and combination nursing staff in Birjand with the compiled standards of the ministry of health; treatment and medical education of Iran (2006). *Modern Care Journal*, 3(3), 5-9.
- Gholizadeh, B., Nabavi, S. S., Baghaei, S., Zadeh, F. J., Moradi-joo, E., Amraie, R., Baghaei, A., & Najafian, M. (2021). Evaluation of risk factors for cardiovascular diseases in pregnant women referred to Golestan Hospital in Ahvaz. *Entomology and Applied Science Letters*, 8(3), 40-45.
- Haghdoost, A. A., Kamyabi, A., Ashrafi Asgarabad, A., Sadeghi Rad, B., Shafieian, H. & Ghasemi, S. H. (2010). Geographical distributions of different groups of medical staff in the country and provincial inequalities. *Medical Council of Iran*, 28(4), 411-419.
- Herman, R. D., & Renz, D. O. (2008). Advancing nonprofit organizational effectiveness research and theory: Nine theses. *Nonprofit Management and Leadership*, 18(4), 399-415.
- Homauni, A., Mosadeghrad, A. M., & Jaafari-pooyan, E. (2021). Employee performance appraisal in health care organizations: A systematic review search. *Journal of Organizational Behavior Research*, 6(2), 109-121.
- Horev, T., Pesis-Katz, I., & Mukamel, D. B. (2004). Trends in geographic disparities in the allocation of health care resources in the US. *Health Policy*, 68(2), 223-232.
- Huang, W., & Chang, R. (2001). Changing geographic distribution of physicians in Taiwan: 1984-1998. *Journal of Medical Education*, 5(2), 13-20.
- Imani, R., Asefzadeh, S., & Mamikhani, J. (2012). Comparative study on health human resources composition in the Eastern. *Journal of Inflammatory Diseases*, 15(4), 5-12.
- Jamal, D., Jardali, F., & Chaghchagian, V. (2010). Assessment of human resources management practices in Lebanese hospitals. *World Hospitals and Health Services: The Official Journal of the International Hospital Federation*, 46(1), 23.
- Katori, K., Iwakiri, S., Suzuki, Y., Shigematu, K., Iihoshi, M., Shono, S., Sakuragi, T., & Higa, K. (2002). Manpower at private university hospitals in Japan. *Masui. The Japanese Journal of Anesthesiology*, 51(5), 539-541.



- Keliddar, I., Dastoorpoor, M., Alaei, R., & Vahidnezhad, F. (2023). The relationship between leadership style and organizational health in educational hospitals. *Journal of Organizational Behavior Research*, 8(1), 92-104.
- Kittidilokkul, S., & Tangcharoensathien, V. (1997). Manpower Mix in private Hospitals in Thailand: A Census report. *Health Systems Research Institute, Thailand*, 1-8.
- Matsumoto, M., Inoue, K., Bowman, R., Noguchi, S., Toyokawa, S., & Kajii, E. (2010). Geographical distributions of physicians in Japan and US: Impact of the healthcare system on physician dispersal pattern. *Health Policy*, 96(3), 255-261.
- Matsumoto, M., Inoue, K., Farmer, J., Inada, H., & Kajii, E. (2010). Geographic distribution of primary care physicians in Japan and Britain. *Health & Place*, 16(1), 164-166.
- Méndez, C. A., & Torres, M. C. (2010). Hospital management autonomy in Chile: the challenges for human resources in health. *Revista de saúde pública*, 44, 366-371.
- Ministry of Health and Medical Education. Available from: <https://behdasht.gov.ir/>
- Mostafavi, H., Aghlmand, S., Zandiyan, H., Alipoori Sakha, M., Bayati, M., & Mostafavi, S. (2015). Inequitable distribution of specialists and hospital beds in West Azerbaijan province. *Payavard Salamat*, 9(1), 55-66.
- Mousaali, L., Vali, L., Mastaneh, Z., & Shojaei, P. (2010). Assessment human resources for hospitals of city Kerman. *Journal of Homaye Health*, 7(1), 19.
- Nguyen, D. N. (2023). CSR theory and practice in Vietnam hospitality and tourism sector: A literature review. *Journal of Organizational Behavior Research*, 8(1), 197-213.
- Nishiura, H., Barua, S., Lawpoolsri, S., Kittittrakul, C., Leman, M. M., Maha, M. S., & Muangnoicharoen, S. (2004). Health inequalities in Thailand: Geographic distribution of medical supplies in the provinces. *Southeast Asian Journal of Tropical Medicine and Public Health*, 35, 735-740.
- NooriHekmat, S., Dehnavieh, R., Mohammadi, N., Poorhosseini, S., Rezai, F., Mehralhasani, S. H., & Salmani Nodoushan, A. (2014). Determining the optimum number of nursing staff is needed in Kerman Shafa hospital emergency department. *Scientific Journal School of Public Health Yazd*, 13(2), 140-155.
- O'Reilly, J., Busse, R., Häkkinen, U., Or, Z., Street, A., & Wiley, M. (2012). Paying for hospital care: the experience with implementing activity-based funding in five European countries. *Health Economics, Policy and Law*, 7(1), 73-101.
- Ozcan, S., & Hornby, P. (1999). Determining hospital workforce requirements: A case study. *Human Resources for Health Development Journal*, 3(3), 210-220.
- Ranganadhareddy, A. (2022). A review on production of polyhydroxyalkanoates in microorganisms. *Journal of Biochemical Technology*, 13(1), 1-6.
- Sadeghifar, J., Poureza, A., Ahmadi, B., Zeraati, H., & Arab, M. (2012). Assessment of the necessary manpower for the hospitals of Ilam university of medical sciences following the personnel criteria



- and standards of the ministry of health Ilam university of medical sciences. *Journal of Ilam University of Medical Sciences*, 19(1), 24-31.
- Shahabi, M. A. S. O. U. D., Tofighi, S. H., & Maleki, M. R. (2010). The nurse and specialist physicians manpower distribution by population and its relationship with the number of beds at public hospitals in Iran's 2001-2006. *Journal of Health Administration*, 13(41), 7-14.
- Taati Keley, E., Meshkini, A., & Khorasani Zavareh, D. (2012). Distribution of specialists in public hospitals of Iran. *Health Information Management*, 9(4), 548-557.
- Taha, M. S., Elbasheir, M. E., Abakar, M. A., Ibrahim, E., Abdallah, M. M. E., Omer, A. E., & Eltayeb, L. B. (2022). The impact of COVID-19 on blood coagulation profile among sudanese hospitalized adult patients. *Journal of Biochemical Technology*, 13(3), 67-70.
- Theodorakis, P. N., & Mantzavinis, G. D. (2005). Inequalities in the distribution of rural primary care physicians in two remote neighboring prefectures of Greece and Albania. *Rural and Remote Health*, 5(2), 457-468.
- Vujicic, M., Sparkes, S., & Mollahaliloglu, S. (2009). Health workforce policy in Turkey: Recent reforms and issues for the future. *Health, Nutrition, and Population - The World Bank: Washington, USA*.
- Wahba, A. A. (2021). The role of joint review in reducing negative profit management practices in joint stock companies, Egypt. *Journal of Organizational Behavior Research*, 6(2), 1-17.
- Wahlbeck, K., Manderbacka, K., Vuorenkoski, L., Kuusio, H., Luoma, M. L., & Widström, E. (2008). Quality and equality of access to healthcare services: HealthQUEST country report for Finland. *National Research and Development Centre for Welfare and Health: Helsinki, Finland*.
- World Health Organization. (2009). WHO global atlas of the health workforce. Geneva, World Health Organization. Available from: http://www.who.int/global-atlas/autologin/hr_h_login.asp.
- Zagade, H., Varma, S., Suragimath, G., & Zope, S. (2022). Knowledge, awareness, and practices of oral health for debilitated patients, among nursing staff of Krishna hospital. *International Journal of Pharmaceutical Research & Allied Sciences*, 11(2), 73-80.
- Zreiq, R., Algahtani, F. D., Ali, R. M., Al-Najjar, M., Suleiman, S., Alshammari, F., Rakha, E. B., & Alshammari, T. H. (2022). Frequency of hepatitis c infection in hospital patients in Ha'il, KSA: A retrospective analysis. *International Journal of Pharmaceutical Research & Allied Sciences*, 11(3), 11-17.

