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Loss of confidence: exploring medical health professionals' perceptions of the Kurdistan Healthcare System

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Abstract

Understanding the Medical Health Professionals' (MPH) perspectives is valuable in increasing the efficiency of health centres of Iraqi Kurdistan. The aim of this research is to observe and analyse the MPH's perspectives on key health system challenges in the Iraqi Kurdistan health system. A self-administered questionnaire was developed and distributed electronically and in person to recruit participants in Sulaimani. 170 anonymous responses were received and the data collected and analysed between the 13th of March and the 21st of June 2024 using the Statistical Package for Social Science (SPSS) program version 28.0. The results showed that, majority of MPH expressed a negative perspective on most of the

services provided in Public Health Centres. Simultaneously, positive perspectives were also expressed on health indicators in public and private health centres and rated Iraqi Kurdistan and Iraq's health systems. In conclusion, an overwhelming majority of MPH expressed a negative perspective on the recent health system in Kurdistan.

Introduction

Medical Health Professionals (MHPs) are the cornerstone of the health system, their insight is crucial for understanding the challenges and identifying the gaps in the Kurdistan Region of Iraq (KRI) for a more systematic healthcare system. The health sector in Iraq and KRI has been impacted by years of continuous conflict, sanctions, violence, and political instability, with the most obvious deterioration emerging in 2003 after the invasion of the country.[1] Nevertheless, the Iraqi government ensures the health of Iraq and KRI citizens despite the challenges, as Article 30 in the Iraqi constitution mandates the state to secure public health, and Article 31 orders the state to protect public health and "provide the means of prevention and treatment".[2]

Iraq had the most successful healthcare system in the Middle East from the 1960s through the 1980s.[3] The country ensured free health care services to 172 hospitals and 1200 primary health centres.[4] However, since the 1980s with the occurrence of wars and economic sanctions, Iraq's healthcare system deteriorated. During the Iran-Iraq war (1980-1988) resources were diminished in the health sector, in the Gulf War (1990 – 1991) equipment and buildings were devastated and the Iraqi healthcare system faced economic sanctions causing the public health budget to decline

by 90%, additionally, in 2003 the Iraqi invasion by the United States (U.S.) caused serious damage, and destruction to the healthcare facilities, causing the healthcare system to the brink of collapse .[5] The high population rate in Iraq is a challenge to the Iraqi health system in addition to imposing a burden on the Kurdistan health centres.[6] The Iraqi population has increased vastly from 7 million in 1960 to more than 46 million in 2024.[7] Recently, the rise of the Islamic State of Iraq and Syria (ISIS) in 2014 destroyed the already challenged healthcare facilities further mostly in southern and western parts of Iraq, and encouraged Iraqis to move to the Kurdistan Region.[8]

Iraq follows a centralized healthcare system founded in the 1970s consisting of two main levels: the Ministry of Health (MoH) is recognized as the central planning and the Directorate of Health (DoH) administers the cities locally.[9] The KRI health system established in 1990, follows the central Iraqi MoH.[10] The health system in Iraq and KRI operates on the Beveridge healthcare model, which provides health services to all citizens financed by the federal and regional governments.[11] Iraq and the KRI healthcare system displayed progress despite the challenges. The fall in maternal mortality from 78 to 50 per 10,000 live births between 2000 and 2015, and the increase of births attended by skilled professionals from 72% to 91% from 2000 to 2015 exhibits that the Iraqi health care system has made progress despite the challenges that faced the country.[12] Although the Iraqi government showed commitment to reforming the health system from a centralized to a decentralized health system with their rising interest in accreditation and maintaining high-quality standards to develop a national electronic health strategy for effective management, the government is not prepared enough to implement the laws of a decentralized health system to the country and KRI.[6]

Iraqi and Kurdish health services are still physician-cantered where plans and decisions are based solely on the perspective of physicians. While physicians' perspectives are important in decision-making, other MHPs are also part of the healthcare system and thus influence the healthcare system. MHPs' understanding of the health system is a valuable contribution to our understanding. Previous research supports that MHP observations are used as a measurement tool to analyse the overall performance of the healthcare system in KRI.[13] This study aims to observe and analyse the MHP's perspective on key health challenges of the KRI health system, specifically, to identify the most significant issues in the KRI health system, also, to observe the MHP's perspective on Public and Private Health Centres (PPHC), and the overall performance of the KRI health system.

Materials and Methods

A cross-sectional study was performed among MHPs between the 13th of March and the 21st of June 2024. The study took place in the Sulaimani city of KRI. Sulaymaniyah is the second largest city in KRI which is inhabited by approximately 723,170 people.[14] Participants were recruited randomly electronically and contacted through visits. A valid self-administered questionnaire that was available in Iraq's official and most spoken languages (English and Kurdish) was employed in this study. The Questionnaire included sociodemographic variables such as gender, ethnicity, and occupation. Questions were designed to measure the key health issues: quality, shortage, and regulation of medicine, laboratory equipment conditions, healthcare management, Health Information System (HIS), and the healthcare system in Iraq and Kurdistan. Comparative statements ranging from 'strongly agree' to 'strongly disagree' along with 'yes' or

‘no’ or ‘not sure’ and numbers were designed for respondents to respond. Data collected were analysed using SPSS program version 28.0.

Results

By the 21st of June 2024, current employed MHPs from different workplaces, specialties, genders, and ethnicities participated in the questionnaire. 100% of the questionnaire recipients consented to participate in the survey, among PPHC in Sulaimani. The sample consisted of 170 active MHPs including (52%) female, and (49%) male responders (N=170). (48%) MHPs employed in Public Health Centres (PHCs), (38%) in private health centres, and (14%) in PPHC. MHP specialties ranged from (48 %) physicians, (22%) medical laboratory technicians, (20%) pharmacists, (9%) medical assistants, and (1%) administrators. The majority of MHP ethnic groups were identified as Kurds (97%), (2%) Arabs, and (1%) from other ethnicities.
The survey questions consisted of 23 variable questions with 7 major topics designed to assess the current KRI healthcare system from the perspective of the healthcare professions. The major concerns included quality, shortage, and regulation of medicine, laboratory equipment conditions, healthcare management, HIS, and the healthcare system in Iraq and Kurdistan.

Quality, shortage, and regulation of medicine

The majority of MHPs (93%) believe that medicine shortage is more prominent in public hospitals than in private hospitals, additionally, medicine quality in private health centres is better (67%) than the available medicine in PHC (23%). Most MHPs (61%) were unsatisfied with medicine regulation within KRI health centres.

Laboratory equipment condition

MHPs expressed a positive perspective on the quality of equipment used in PPHC (74%, 91%), and laboratory equipment in good condition (35%).

Healthcare management

MHPs are concerned about unequal treatment of PPHC (74%), budget allocation and management (79%), lack of strategy among KRI health centres (75%), response to crisis (57%), overcrowding in health centres (79%), lack of rewards and punishment to health workers (53%), and political interference in managing the health centres (77%). However, several MHPs have also expressed a positive perspective on the level of teamwork among health staff (38%), and especially on the role of women who are in positions (64%). Overall, the system favours treatment rather than prevention (59%).

Health Information System (HIS)

The health data collection system in KRI health centres is inefficient (62%). Additionally, MHPs believe that the capacity for medical research in KRI is low (54%), and that research and data are not used for decisions and plans in the KRI healthcare system (64%).

Healthcare system rating

The perspective of MHPs on the Iraqi and Kurdistan healthcare system is negative. MHPs

negative ratings for the system in the regions are; (Iraq 59%, KRI 48%).

Discussion

The paper highlights the observation and analysis of MHP's perspective on key health challenges and the overall performance of the KRI health system. Results illustrated that an overwhelming majority of MHPs are unsatisfied with the current function of the KRI health system, simultaneously, a minority of MHPs are satisfied with some aspects of the KRI health centres' performance. Challenges are interconnected in the KRI health system. The dissatisfaction of the MHPs stemmed from observing a variety of concerns in the health system. Table 1 shows MHP's response to the questions and statements raised by the researchers. Figure 1 summarizes the MHP's responses starting gradually based on the most positive perspective to the least positive perspective.

According to most MHPs, medicine shortage is a matter of concern in PHC (93%), recent research also supports the fact that medicine shortage is still challenging the health system in KRI. The KRI MoH reported critical shortages in medicine and sought support from the World Health Organization (WHO) In 2014 to supply the ministry with not only medicine but also, significant urgently needed supplies as KRI faced several challenges.[15] However, the issue is still recurring after a decade, now in 2024, despite the international aid that the government received from WHO and international funds. Finance plays an important role in KRI and Iraq's healthcare system. Low funds and the system's inability to scalability are displayed in the disadvantages of KRI Beveridge healthcare. As researchers in the World Health Forum mentioned; "a government-run national health service (the Beveridge model) can provide care for all at a

reasonable cost but cannot avoid the dangers of poor quality".[16] This is revealed in the disadvantages of the Beveridge system, in which the guaranteed health services for all citizens cause the overutilization of the health services and further long waiting lists and consequently overcrowding, since the government is the main cost supplier for citizens. That is why the vast majority of MHPs are concerned about overcrowding in KRI health centres (79%). The number of beds per 1000 population in PPHC is only 2, the number of physicians per 10,000 population is 13, and the number of health care professionals is 5 in Sulaimani.[17] Access to care is great in KRI health centres, the healthcare system provides equitable access to citizens. However, the number of specialists vs patients, and bed vs patient numbers are not correlated enough to accompany the large number of patients in KRI health centres. It is reported that 1000 patients visit Shar Public Hospital in Sulaimani.[18] The high rate of access to care, the low available health care specialists, and over-visiting the centres, have led to overwhelmed and overcrowded health centres in Sulaimani. As a result, health centers are congested with patients.

The case is not similar to that of private health centres. The fact is shown from the data that only 19% of MHPs claim a shortage of medicine in private health centres. The free-curative health services in PHCs attract more people to visit PHCs for treatments than the private health centres. Moreover, there is a correlation between the shortage and quality of medicine in KRI health centres and poor regulation of medicine in KRI. Although in 2019 KRG claimed that the cabinet took effective measures to regulate the medicine market, however, the majority of MHPs are still expressing a pessimistic perception of how medicine is regulated inside KRI (61%).[19] In fact, results from another research showed that shortage and low-quality medical resources are steamed from poor governance in KRI health centres.[13] The issue is also related to how PPHCs are treated. Shortage and quality of medical supplies used in the health centres are apparent

examples of distinctions occurring between the health centres. The pessimistic expression of the majority of MHPs (74%) is self-evident of the unequal treatment of the PPHC in KRI. Published research address the need for PHCs' improvement (Rand.org 2014). Noticeably, PHCs are the direct targets when the subject is reform. Call for reform for "only" PHCs denotes that private health centres are treated better than PHCs and that PHCs are overlooked for providing the necessities. Private health centres in KRI are known to be in better condition in terms of medicine and equipment quality than PHCs. 67% of MHPs believe that available medicine, and medical equipment in private health centres are higher in quality than those available in PHCs (91%).

Certain political situations exacerbated and further blockaded the funding system. The economic infrastructure of KRI is mostly built on investment in oil, and natural gas production,[20] before 2017, KRI covered the needs of the region based on the revenue of oil when the government exported 600,000 barrels of oil daily at a $100 price, however, after 2017 the oil price declined to nearly $50 per barrel, this limited the government to provide sufficient funds to the ministries.[21] Consequently, MoH was affected by the situation. The government is in a financial crisis; therefore, the health centres cannot operate efficiently without adequate finance. Thus, there is a shortfall in medicine and medical supplies. The economic model of the KRI healthcare system shaped and differentiated the PPHC. According to 79% of MHPs, budget allocation and management are not regulated efficiently in KRI health centres. It limits the health centres to enhance healthcare services to citizens. Nevertheless, while the general pessimistic thinking behind the understanding of the MHPs to the conditions of the KRI health system is believed to be financial reasons, there is also better fulfilling healthcare system provision at lower costs.[22] In reality, investing a huge budget in the healthcare system does not always guarantee a better and

more accessible healthcare system. For instance, the U.S. which invests $12,318.1 in health services, is ranked as the top country that invests the most in healthcare expenditure, yet the healthcare quality of Denmark which invests only $6,384.2 is marked as one of the top countries that delivers the best health care to the community, the country has been ranked as the best health care provider globally since 2020.[23,24] The amount of expenditure that a country or a region invests in the health care system is minimally related to the quality of the health care system. Outstanding health centres require active MHPs willing to serve the centres and patients professionally. Research shows rewards to employees will positively impact the productivity of the organization.[25] According to 53% of MHPs, healthcare professionals are neither rewarded for their good performance nor punished for unprofessionalism in their workplace. The inability to recognize good work from bad work discourages skilled professionals from continuing to provide the required services to their workplace which will further disadvantage the health system and the patients.

Evidence-based decision-making and planning require proper HIS in the health sector. MHPs are unsatisfied with the KRI health data system (62%). Years of wars have devastated the health data collection system in the KRI causing a failure in the development of the health system, in which there is still a lack of accurate birth, disease, and cause-of-death data.[26] Lack of or deficient data leads to poor decision-making and unreliable health data.[27] Additionally, other research has shown that HIS are neither efficient nor systematic to support policymaking, regulation, or system management and that health data are not readily available, importantly, patient records are not non-existent in KRI ambulatory centres.[28] The lack of preserved medical data reduces transparency in health centre management. It creates reasons for political interference. The

limited health information data in Iraq and KRI limits the necessary analysis for decision-making, opening doors for politicians to guide health managers in managing the health centres. The positive perspective of several MHPs towards several aspects of the KRI health system is evidence for promising improvement in the health sector. MHPs' positive perspective on medicine quality in private health centres (67%), quality of equipment in PPHC (74%, 91%), laboratory equipment maintenance (35%), level of teamwork among the health workers (38%), and the role of women who are in positions (64%). The KRI health centres are satisfactory to MHPs regarding many other indicators. Most MHPs believe that Laboratory equipment in both health centres is constantly updated and maintained (35%). For example, MHP's positive expression of laboratory equipment maintenance (35%) displays that Laboratory equipment conditions are crucial in providing correct test results. Without accurate test results, physicians are puzzled in diagnosing diseases and mislead patients by taking false treatments. Proper working laboratory equipment decreases the turnaround time of laboratory results, which further reduces the workload on health staff leading to a smooth workflow in the laboratory. 38% of MHPs claim that there is teamwork among health staff. Therefore, proper operating equipment and staff come hand in hand to provide an efficient service.

Women play a crucial role in KRI health centres. Male and Female MHPs contribute equally to the KRI's PPHC. For example, while collecting data from respondents randomly, a nearly equal percentage of respondents considering their genders were collected (49% Male, 52% Female). KRI health centres are not biased toward one gender and women have the same opportunity and role in positions in the KRI health centres. This is shown by the 64% of MHPs' positive perspective on the role of women in KRI health centres. During the 2019 Coronavirus pandemic, female MHPs served in the frontlines of the health care centres to deliver the most needed

service to the people, which is particularly shown in a report published by the United Nations (UN) where the UN women representative for Iraq and Yemen Dina Zorba said that “Despite the unprecedented challenges, Iraqi women are playing vital roles in the country’s COVID-19 response, serving as leaders, health and social workers, and responders to domestic and gender-based violence”.[29]

The perspective of MHPs on the Iraqi and Kurdistan healthcare system is unsatisfactory. MHPs’ Figure 2 shows the negative ratings for the systems in the regions (Iraq 59%, KRI 48%). Previous research that was performed in 2010, has shown that former MHPs in KRI were not satisfied with the health care services and the health system's overall performance in KRI.[13] Although MHPs expressed a negative viewpoint on KRI and Iraq’s healthcare system, the healthcare system in Kurdistan is 11% better than Iraq’s current healthcare system from the perspective of MHPs.

KRI's health sector is young in terms of governing a health system. The region is still in growth in addition to its vulnerability to Iraq’s health care challenges specifically after the US invasion in 2003. It is important to recall that reform initiatives have been started since 2004 in the KRI healthcare system, however, only a minor change has been achieved.[30] There is not a clear and definite answer for what needs to be solved. There needs to be a holistic solution in which the health sector in KRI has to have a combined effort in terms of medical staff training, improvement of infrastructure, creating a balanced healthcare system, improving the population’s health, and improving access to healthcare because different health professionals have different perspectives.

Conclusions

KRI health centres face challenges in financial sustainability and scalability. The weak healthcare system in KRI health centres is the ramification of a shortfall in quality care, infrastructure, and medical supplies which further resulted in poor health outcomes. These are all ramifications of a devastated health financing system. The vast majority of MHPs are concerned about the recent health system in KRI. The challenges that impacted the Iraqi healthcare system affected the KRI health system. The health system in KRI requires reform in the healthcare sector. Particularly the PHC requires more quality services. Therefore, KRI is still in need of many efforts to guarantee a well-functioning public health system

Limitations

This study was limited to include only currently employed KRI medical staff ranging from; physicians, administrators, pharmacists, nurses, researchers, medical laboratory technicians, and medical assistants were included in the study. Any individual who is currently retired or is from the non-medical professions was excluded from participating in the questionnaire because the current MHPs are the most exposed to the current health system issues, they have daily access to problems, and solutions, therefore, obtaining their opinions is necessary.

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Table 1 MHP's perspective on the health indicators.

Variables	Scale (%)		
	Positive view	Neutral	Negative view
Quality, shortage and regulation of medicine			
Medicine quality in public health centres	23	42	35
Medicine quality in private health centres	67	29	4
Shortage of medicine in public health centres	1	6	93

Shortage of medicine in private health centres	52	29	19
Medicine regulation in Kurdistan Region of Iraq	18	21	61
Laboratory equipment condition			
Quality of the equipment used in public health centres	74	10	16
Quality of the equipment used in private health centres	91	8	1
Laboratory equipment's constant update	35	34	31
Healthcare management			
Equal treatment of public and private health centres	10	16	74
Strategy between Kurdistan Region of Iraq health centres	8	17	75
Response to crisis	11	32	57
The level of teamwork among the health workers	38	34	28
Politics interference in managing the health centres	9	14	77
The role of women in positions	64	24	12
Overcrowding in Kurdistan Region of Iraq health centres	8	13	79
Budget allocation and management	8	13	79
Rewards and punishment are given equally to MHPs	33	14	53
The system favours treatment rather than prevention	15	26	59
Health Information System (HIS)			
Health data collection system in the Kurdistan Region of Iraq health centres	22	16	62
Medical research capacity in the Kurdistan Region of Iraq	17	29	54
Research and data use for decisions and plans	10	26	64

Healthcare system rating			
The current health system in Iraq	14	27	59
The current health system in Kurdistan	19	33	48

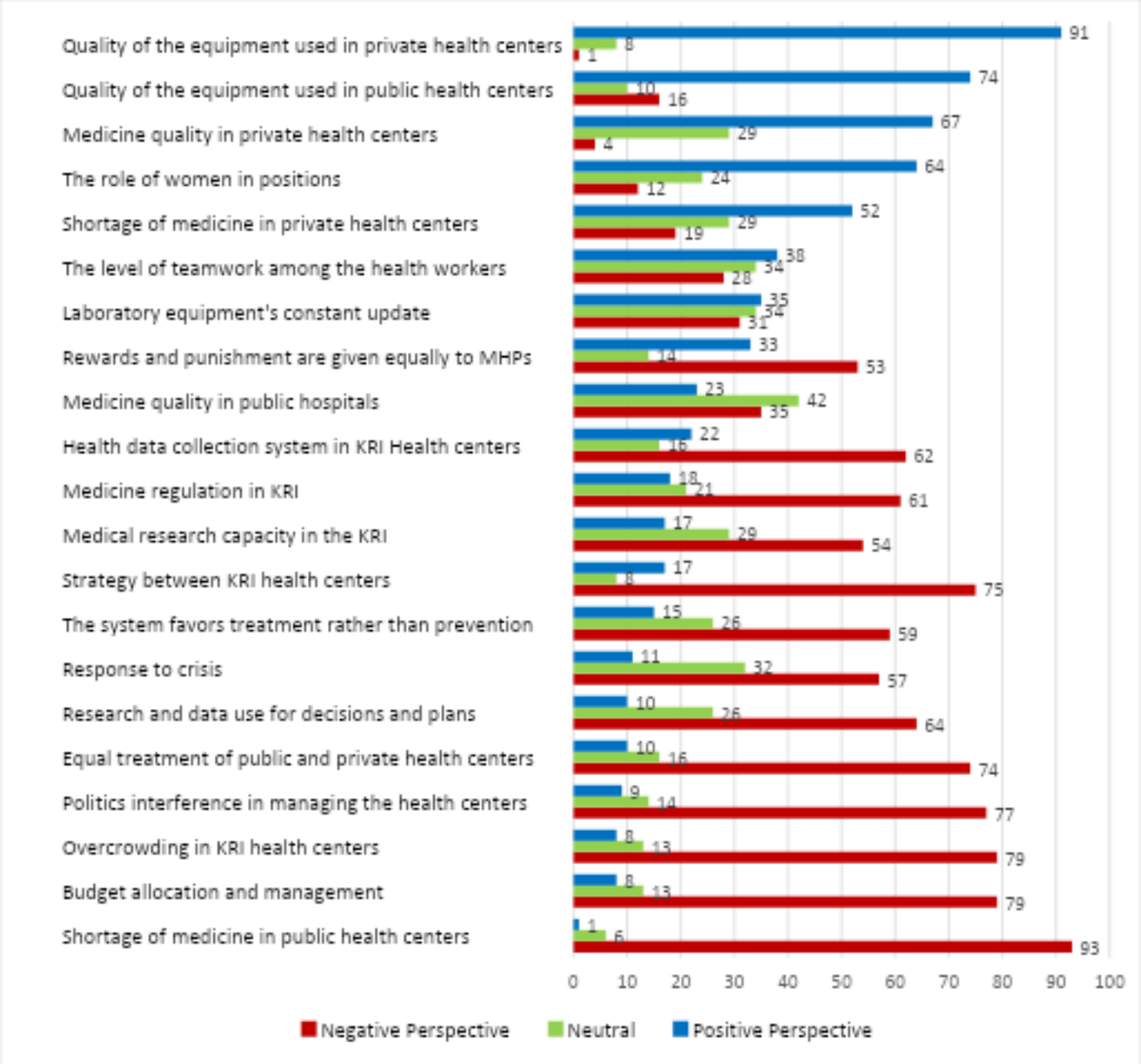

Figure 1. A range of positive and negative perspective of the MHPs on the health indicators.

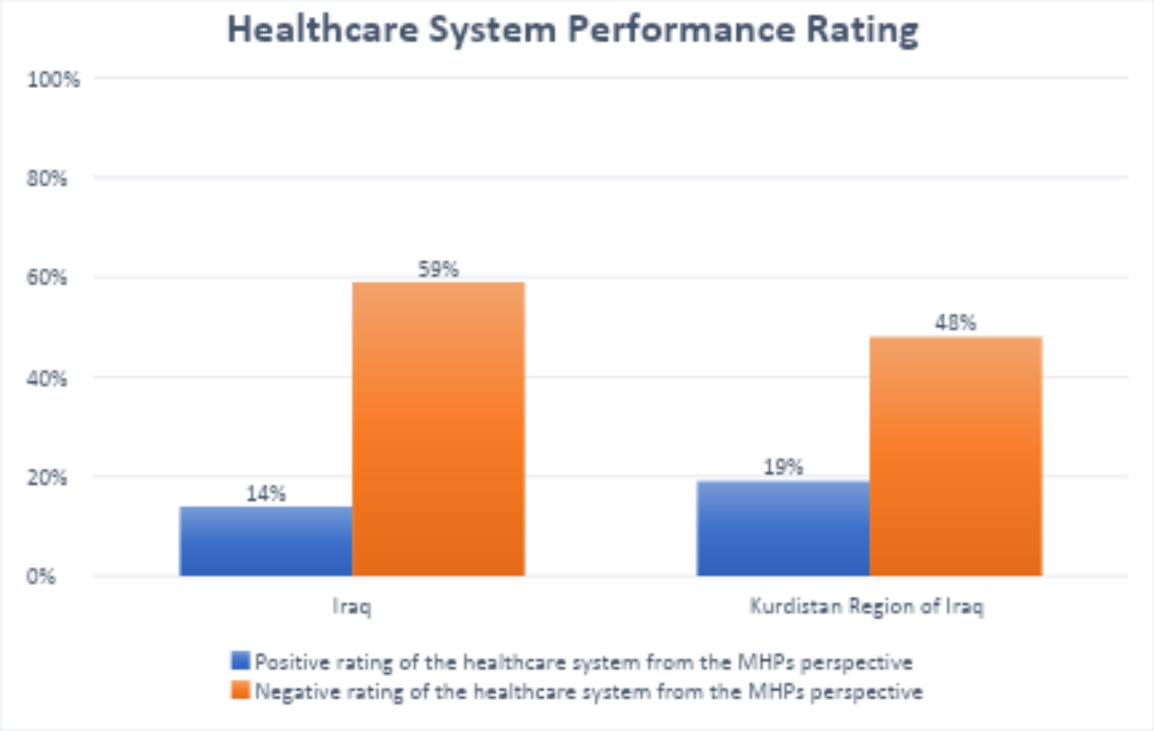

Figure 2. MHPs rating the Iraqi and KRI healthcare system performance.

Contributions: Saya Omar Abdulrahman and Goshan Mohammed Karadaghi conceptualized and designed the study. Goshan Mohammed Karadaghi supervised the entire research project, from building the project title to creating a road map for the methodology and data collection, and critically revised and proofread the manuscript for important intellectual content. Saya Omar Abdulrahman developed the research questionnaire, coordinated data collection in Sulaimani, performed the statistical analysis using SPSS, interpreted the data, and drafted the initial manuscript. Both authors read and approved the final manuscript for publication and agree to be accountable for all aspects of the work.

Conflict of interest: no potential conflict of interest was declared by the author(s).

Ethics approval: ethical consent was obtained from participants. All persons on whom the research has been carried out have given their voluntary, informed, written consent. All information remained confidential and anonymized, and participants' consent was indicated before proceeding with the survey. This study was approved by the Ethics Committee of the American University of Iraq, Sulaimani Institutional Review Board (reference number: March 11, 2024-2) on March 9, 2024.

Data availability: all data generated or analysed in this study are included in this article.

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