HEALTH SYSTEM PERFORMANCE, MITIGATION, AND IMPERATIVE REFORM APPROACHES IN THE KURDISTAN REGION OF IRAQ: A QUALITATIVE SWOT ANALYSIS FROM THE STAKEHOLDERS' POINT OF VIEW

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ABSTRACT

Background: Health systems are dynamic and evolve over time. It is essential to look at the entire health system before implementing any intervention to modernize the whole health system or a component of it. This study analyzed the performance of the health system in the Kurdistan Region of Iraq and investigated potential reform steps to mitigate the identified challenges.

Methods: A qualitative study was conducted in 2021 to recruit 37 key informants and decision-makers, advisors, and experts from the Kurdistan Parliament, Ministry of Health, Ministerial Council, Ministry of Finance, and external experts in the field of health. Thirty-one responded to a self-administered questionnaire of open-ended questions.

Results: While the health system in the Kurdistan Region of Iraq had its own strengths and opportunities to modernize it further, there were much more weaknesses and threats to it. The areas that received much attention were the lack of vital laws such as the medical council, health insurance, public-private sector regulation, accreditation, food and drug administration, and the absence of a regional health policy and strategic plan. The parliament and executive authorities, represented by the different government agencies in the Kurdistan Region of Iraq, have a role in mitigating all the weaknesses and threats in the health system.

Conclusions: The study provides policy evidence and a framework of the potential health strategies for the current and the coming government cabinets and parliament rounds in the Kurdistan Region of Iraq to improve the health sector and contribute to achieving sustainable development goals by 2030. It provides a road map for researchers to explore the current health system problems further and find suitable solutions.

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Health systems are complex and composed of several interrelated elements that aim to maintain or improve the health of individuals[1]. World Health Organization (WHO) defines a health system as "all organizations, people, and actions whose primary purpose is to promote, restore or maintain health"[1,2].

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WHO has formulated a framework that describes the health system in six building blocks: service delivery, health workforce, health information systems, access to medical products, vaccines and technologies financing, and leadership and governance. All the components function in synergy and coherence, and interact with the political, social, and economic environment[3,4].

Any health system embraces several overall goals. They encompass improving the health of the population and minimizing health inequalities, responding to the needs of the population it serves, securing fairness in financial contribution, and improving efficiency in the delivery of health care services and health system organization and administration. Other intermediate objectives contribute to attaining the broader health system's overall goals. These include access, coverage, quality, and safety of health services[1].

Globally, health systems strive to achieve universal health coverage (UHC) and attainment of sustainable development goals (SDG). More specifically, SDG 3 advocates countries to take health as a priority and achieve the goal of “ensuring healthy lives and promoting well-being for all ages” by 2030. Within this goal, there is a specific target (Target 3.8) that emphasizes to “achieve universal health coverage, including financial risk protection, access to quality essential health-care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all”[5,6].

Improvement of the learning about these health systems is crucial in the ongoing reform initiatives to improve the health sector of any country or region[7]. In designing and evaluating interventions to modernize health systems, it is essential to look to the systems thinking approach. This approach will allow one to view health from the broader perspective on how these blocks interact with each other and respond over a long time[8].

In the last decade, Kurdistan Region of Iraq (KRI) health sector has witnessed several initiatives to be modernized at a KRI level or as an integral part of the Iraqi health system. The first and the most important initiative was the participation of KRI Ministry of Health (MoH) in the health system performance exercise in collaboration with the Iraqi MoH and UN agencies. This exercise has served as a base for developing proper strategies for Iraq and KRI to modernize the health sector. While there has been a need for improvement in many areas of the health sector, the functional review assessment in 2011 addressed some key health problems, including but not limited to inequities in inputs and outputs[9].

In KRI, there has not been any regional health policy document. However, the Kurdistan Region of Iraq laid out the vision 2020 for Kurdistan Region in 2013 as a guide when formulating policies targeting several key sectors, including the health sector. It recognized four main health policy strategies: establishing a robust health care financing system, enhancing preventive health services, increasing availability and improving quality of health services, and strengthening the regulatory and policy capacities[10]. Ongoing crises and conflicts in the region since 2014 hindered the implementation of this vision. Most

recently, the ninth cabinet of Kurdistan Regional Government (KRG) has outlined several policy directions in its inauguration on the 10th of July of 2019. The government has put forth its commitment to improving public health sector and delivering the health services at the optimal quality[11].

The KRI has went into era of system thinking to cope with this crises and conflicts. More recent analyses are believed to be crucial that will be consistent with the new thinking of running different vital sectors in the community, including but not limited to health. The current study aimed to conduct an analysis of strengths, weaknesses, opportunities, and threats (SWOT) of the existing health system in the KRI from perspective of the key health stakeholders, mainly governmental and legislative. Furthermore, the study investigated the potential initiatives and reform steps to mitigate the health system challenges in the KRI.

METHODS

This qualitative study was conducted in the Kurdistan Region of Iraq in 2021. The researcher used discretion and prior knowledge to select the key informants (KIs) from the Kurdistan Region of Iraq who best met the purpose of the survey. The researcher had taken the advice from these KIs, particularly His Excellency the Minister of Health, to identify other stakeholders that would have valuable input. A total of 37 KIs were approached to participate in this assessment. They represented Member of the Health, Environment, and Consumer Rights Committee at Kurdistan Parliament, His Excellency the Minister of Health, His Excellency the Undersecretary of Ministry of Health, Health Minister Advisor, Director General of Health at the level of Ministry of Health, Director General of Health or a nominated representative at the level of governorates and independent administrations, Technical Director at Ministry of Finance who also is the representative at Directorate General of Insurance Companies, health advisors at Ministerial Council, Directors of Health at the seven district of Duhok governorate (Duhok, Zakho, Akre, Amadiya, Summel, Sheikhan, and Bardarash districts), and an external expert from international health organization currently working in the KRI. Thirty-one (83.8%) responded to the survey.

Official facilitation requests were sent from the Ministry of Higher Education and Scientific Research of Kurdistan Regional Government to MoH-KRG and Kurdistan Parliament. Within the Ministry of Health hierarchy, another facilitation letter signed by His Excellency the Minister of Health with an annexed questionnaire was sent down to Diwan of the Ministry and relevant directorate general and health directorates in the governorate for support in providing their answers. A visit was made to the relevant committee in Kurdistan Parliament to introduce the survey and hand questionnaire to parliament members and advisors. Parliament members and advisors who were not available at the time of the visit were contacted using email or WhatsApp and, when needed, by phone. The latter communication strategies were used for other stakeholders also. Both self-

administered and audio-recorded face-to-face interview techniques were utilized at the stakeholder's preference due to their busy work. Data collection was done by the principal investigator. The chosen KIs were introduced to the study and the importance of their participation in providing opinions. Their rights to withdraw from the study or not answering a specific question was mentioned in this introduction. They were also informed about the confidentiality of data and non-reporting of personal identifiers.

An open-ended questionnaire in Kurdish and English was designed to collect the opinions and the relevant information. The participants were asked about their opinions on SWOT of the existing health system in the KRI, and the potential approaches to mitigate the challenges and the most crucial reform step to improve the health system.

Unconditional ethical clearance was awarded by Research Ethics Committee, a shared committee between the University of Duhok and the Duhok Directorate General of Health, in its letter No. 290520180-4 on May 29, 2018.

DATA ANALYSIS

The narrative answers and transcripts were processed into NVivo software version 12 12. The answers and transcripts were processed into the program. Initially, the researcher got familiarized with the contents. Then, an inductive approach was used to develop a preliminary thematic framework for the answers and refined subsequently. When more than one subtheme was identified for a single theme, they were also presented in mind maps.

RESULTS

A. SWOT analysis of the health system in the KRI

Figure 1 shows the main themes that emerged from the SWOT analysis. Within each theme, there were one or more subthemes arose.

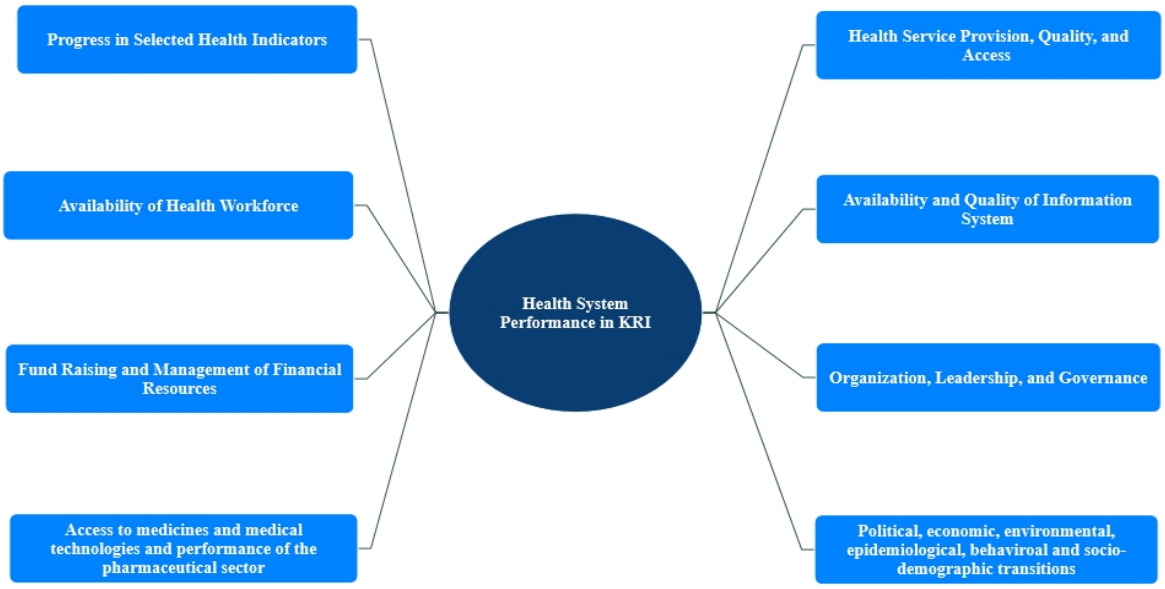

Figure 1: Mind map of the main themes of SWOT analysis of health system performance in KRI

Theme 1–Progress in selected health indicators:

KRI has seen a reduction in selected essential health indicators such as maternal

and infant mortality ratios. There has also been a reduction in the occurrence of communicable diseases.

Theme 2–Availability of health workforce:

Figure 2 shows the main subthemes of strengths, weaknesses, opportunities, and threats related to health workforce availability.

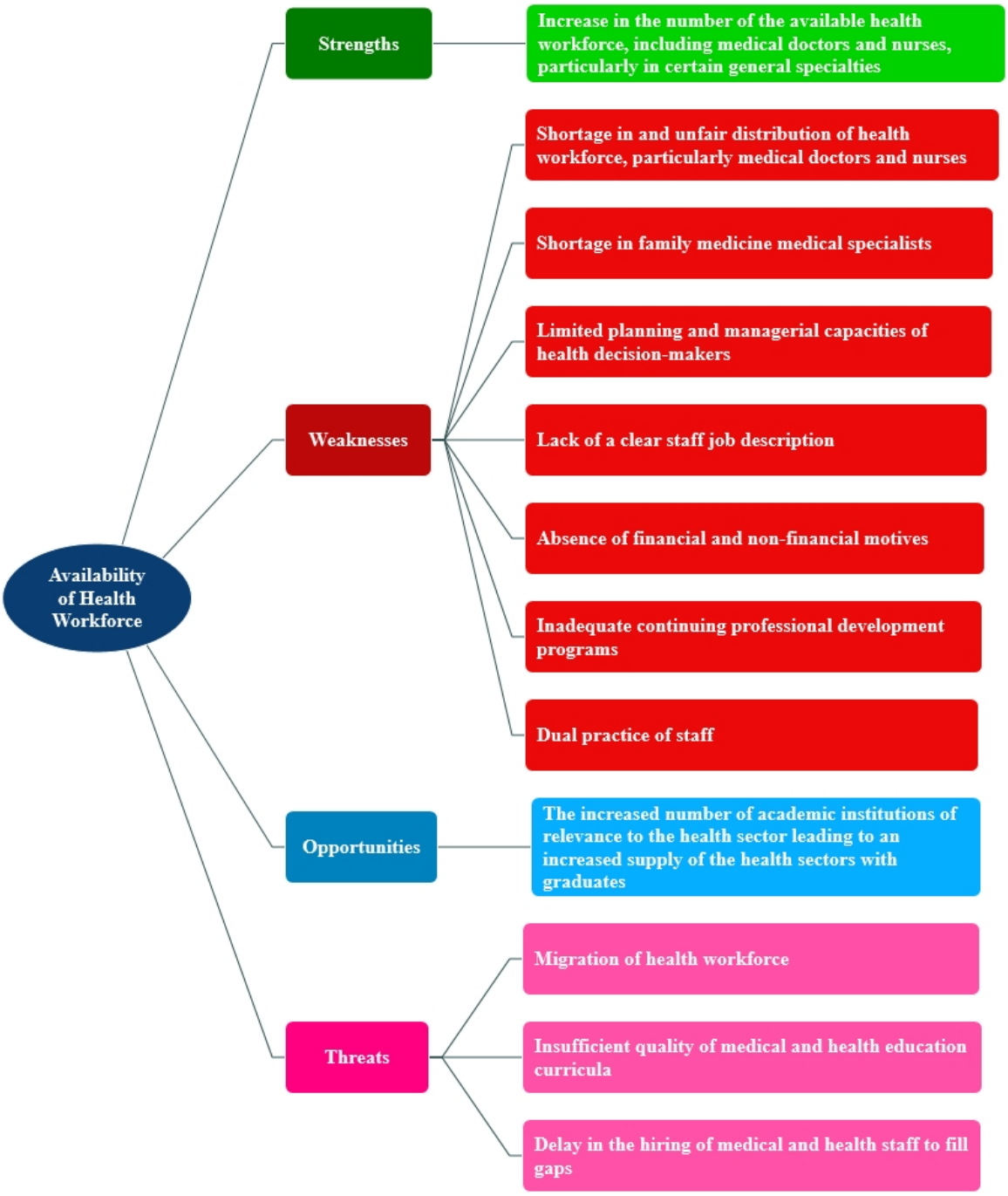

Figure 2: Mind map of SWOT analysis subthemes of "availability of health workforce"

Overall, there has been an increase in the workforce, including medical doctors and nurses with clinical and scientific capacities, particularly in the last 2-3 decades. Some KI indicated that non-medical employees were citizens of the

area under their jurisdiction, and they considered it a strength for the health sector in their areas.

While the KIs indicated that there has been an increase in the health workforce in KRI but is still below the expectation of KRIs in terms of quantity and quality. There is an imbalance in numbers across specialties and geographical locations. The health system failed to retain health staff in certain specialties or geographical areas. In some areas, there was a high burden on physicians. Despite the gatekeeping role of family doctors; however, KIs mentioned that family medicine is not expanded due to the failure of the health systems in motivating medical doctors toward family medicine practice.

Few KIs indicated that there was a limited number of staff who had technical capacities in planning, management, and monitoring and evaluation.

The job description is absent, and if present, is outdated or is not implemented.

The KIs reported that the health system in KRI lacks staff motivations, both financial and non-financial, to better comply with work, perform more efficiently, or retain in undesirable medical specialties or remote areas.

There was an insufficient ongoing professional development (CPD) program. There is no dedicated budget for such programs. CPD credits are not used to promote or re-license medical and health staff.

Medical and health staff work in both public and private health sectors. This dual work of a single staff is unregulated and uncoordinated, leading to less productivity and inadequate health service provision in the public sector and domination by the private sector.

The KIs stated that there are many academic universities and colleges' graduate students who can be hired later in health sectors through the good coordination between MoH and MoHE in KRI.

The KIs indicated that migration of health workforce and delay in hiring medical and health staff are threats to health system performance. Some KIs also raised their concerns about the quality of medical and health education as a threat to strengthening human resources for health, mainly when there is a reluctance to update curricula to meet the most recent advances in the health sector.

Theme 3–Fund raising and management of financial resources:

Figure 3 illustrates the main subthemes of the theme "fundraising and management of financial resources" in the KRI health system.

Allocation of a portion of health revenues for the health sector was seen as a strength by some KIs.

Few KIs indicated there are no clear financing initiatives to achieve UHC in KRI, and the present funding to improve the health care system is limited. It was believed that the allocated government budget for health is not sufficient to meet the increasing needs of the citizens. In the last eight years, there have been problems with the availability of cash to procure services and important goods such as drugs, medical supplies, and equipment. Furthermore, there was a maldistribution of the allocated government health budget. Lack of health insurance system in KRI was also reported as a weakness of the

existing health system by several KIs. Lack of incentives for better performance and use of salary system as a base for staff payment was seen as a weakness.

Presence of some schemes of health insurance in the private health sector was seen as an opportunity.

Government budget deficit resulting from reliance on a single source of funding was indicated to be a risk on the health system in the KRI due to the sudden cut of funding for the health sector, which from time to time face crises and epidemics.

Theme 4–Access to medicines and medical technologies and performance of the pharmaceutical sector:

Figure 4 presents the main subthemes of SWOT analysis of the theme "access to medicines, medical technologies and performance of the pharmaceutical sector in KRI".

Some KIs believed that the establishment of Kurdistan Medical Control Agency is one of the strengths of the existing health system. However, KIs expressed their concerns about the unregulated pharmaceutical sector, reliance on imports, inadequate market monitoring, counterfeit drugs, and suboptimal quality of drugs.

A general shortage of drugs and medical supplies and inequity in access to the needed medication was reported by several KIs. There were concerns about the shortage of certain medications such as chronic diseases, cancer, and life-saving medications. They foresaw the growth of local pharmaceutical production sector and KRI share of medicines and medical supplies in the Iraqi federal government budget as opportunities to deliver the needed medications.

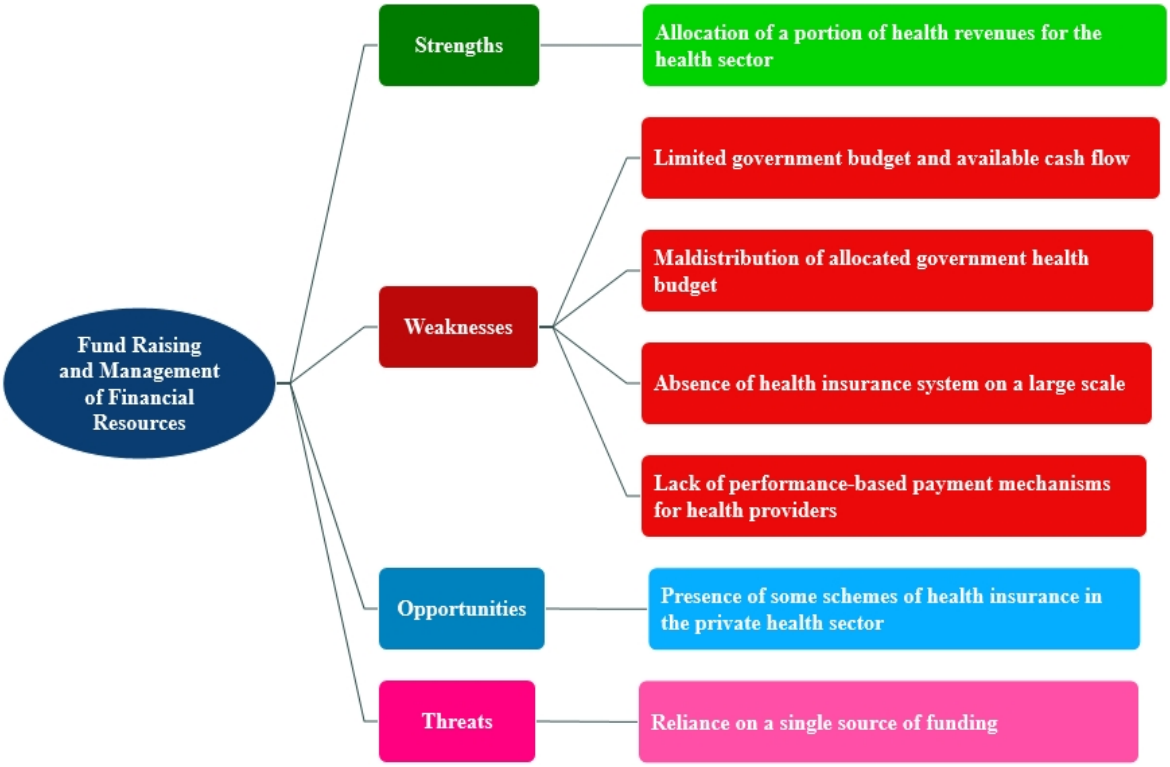

Figure 3: Mind map of subthemes of "fundraising and management of financial resources"

Figure 4: Mind map of the main subthemes of "access to medicines and medical technologies, and performance of the pharmaceutical sector"

Theme 5–Health service provision, quality, and access:

Figure 5 shows the main subthemes of the SWOT analysis theme “health service provision, quality, and access”.

Most KIs agreed that there was an expanding network of primary, secondary, and tertiary health facilities in cities and districts, even though it did not meet their expectations. The situation varies by governorates and districts, and subdistricts. Service fees in government facilities were not high. Some services, particularly preventive and primary care services, are even free or nominal. Service provisions in these facilities were ongoing despite the various crises facing KRI, including people displacement, the fight against ISIS, and the financial crisis.

Some KIs indicated that the existing government health services are not efficiently utilized over 24 hours, leading to a long waiting list, particularly for surgeries, MRI, and CT scans. Health care in KRI has been mainly focused on providing curative services with little interest in promotive and preventive health care.

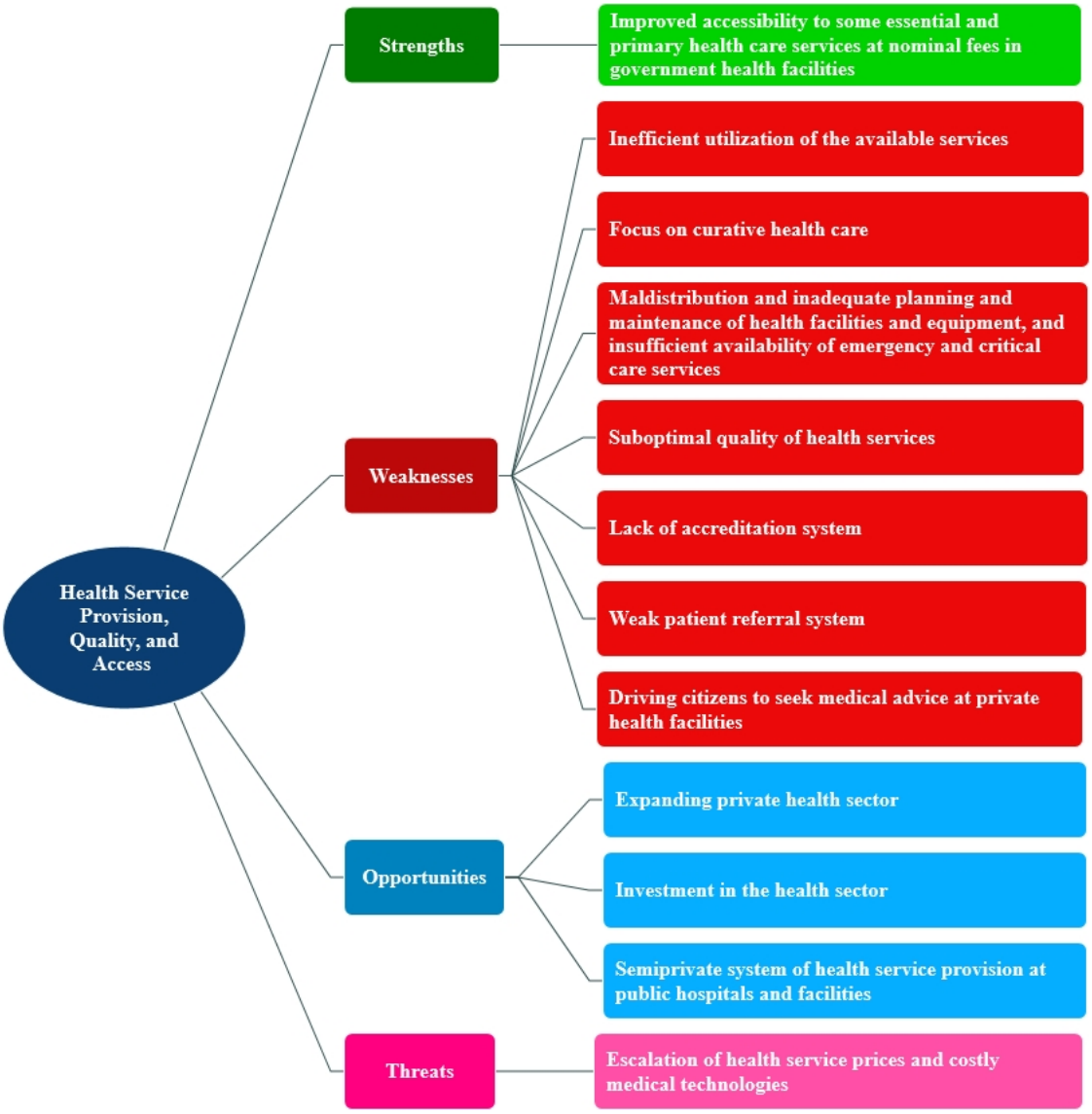

Figure 5: Mind map of the main subthemes of "health service provision, quality, and access"

KIs referred to the unbalanced distribution of health facilities across governorates in KRI and within a single governorate. Buildings were not built accordingly to the best evidence practices. There was a shortage in the availability of emergency and critical care services. Both buildings and equipment were not maintained well; ad-hoc maintenance was commonly practiced rather than preventive maintenance.

KIs indicated that there were low satisfaction rate and insufficient quality of the provided health services, particularly in the public sector. Citizens, health care providers, and even decision-makers are not satisfied with the quality of health services. Medical care was doctor-oriented medical care and there was no implementation of patient rights law. The study found that there was an inadequate staff-patient communication. The nursing care was also thought to be inadequate. Delay in getting the needed services was another identified challenge. Furthermore, access to the health services is not equitable. The accreditation system was also absent. KIs notified that the hospitals are crowded due to ineffective patient referral from the first primary level. It was

also indicated that citizens are driven to seek medical advice at private health facilities.

KIs stated there was an increase in the private health sectors that can be leveraged to complement the public health sector. The currently effective investment law in KRI, which provides tax exemption incentives to foreign investors, was thought of as an opportunity to attract investment in strengthening health infrastructure and improving health service provision. The semiprivate system in public hospitals and facilities implemented in KRI was stated as an opportunity to improve health service provision.

The main threat to service provision was believed to be the escalation of health service prices and costly medical technologies.

Theme 6–Availability and quality of information system:

Inadequate health information system and lack of a culture of evidence-based decision making were weakness of the current health system. The health information system in KRI was found to be inadequate by several KIs. It was characterized by a fragmented aggregate-based data collection, paper-based medical records, inadequately utilized ICD-10 system, no unique health identification code for citizens, questionable quality of data, unaudited collected data and information system, no or insufficient analysis of collected data, and decisions not based on evidence.

Theme 7–Organization, leadership, and governance:

Mind map of the subthemes of "organization, leadership and governance" SWOT analysis of the KRI health system is presented in figure 6.

KIs has mentioned that health leaders had coordinated with some key stakeholders. The coordination was with Federal Iraqi MoH, UN, and experts to develop policies and non-governmental organizations to deliver and improve health services.

The KIs showed their concerns about health policies and managerial and leadership capacities. The health system is old-fashioned with no regional policy and strategic plan to envision the health sector in KRI. Most actions were not proactive but rather ad-hoc responses. There was a shortage of managers at different levels where managerial skills are required. There was an absence of operational rules, guidelines, and performance benchmarks. The health system was not well-supported by adequate health laws and regulations. KIs mentioned that the monitoring and evaluation system of the health sector in KRI was not as intended. There were overlapping of roles of MoH with other ministries and with syndicates. KIs thought that weakness is more in monitoring the performance of the private sector. There were issues with the follow-up of the implementation of the endorsed laws. Community had no or little engagement.

Many KIs clearly stated that the current government leadership had set its agenda to improve the quality of health service provision with an emphasis on the health insurance system. Amending the currently effective law, enacting new laws, scaling up capital assets, public-private partnership, family medicine, and the primary care model of health care were among the areas where there was interest for strengthening and actions.

The presence of UN agencies, local and international organizations, and international experts was seen by some KIs as a good opportunity to assist the leaders of the health sectors in the KRI to support the initiatives in reforming the health sector transforming the health system into a one that progresses the KRI towards attaining the UHC.

KIs reported that the delay in enacting new laws or amendment of the existing laws poses a threat to any effort to modernize the health sector in the KRI. They referred to several laws of importance to improve health service delivery and meet the community needs, including but not limited to health insurance, public-private sector separation, medical council establishment, and health institution accreditation. However, there were other already existing laws of syndicates that may conflict with the strengthening of the legal framework of the health sector.

KIs stated there was a sort of centralization in the decision, particularly the financial decisions. There was an ongoing change in the financial regulations. MoH had minimal financial autonomy due to a high level of bureaucracy from MoF. Furthermore, hospitals are not autonomous financially and administratively, for instance in hiring staff.

Inadequate management of other sectors such as municipality, environment, waste management, etc., could negatively affect the health system performance.

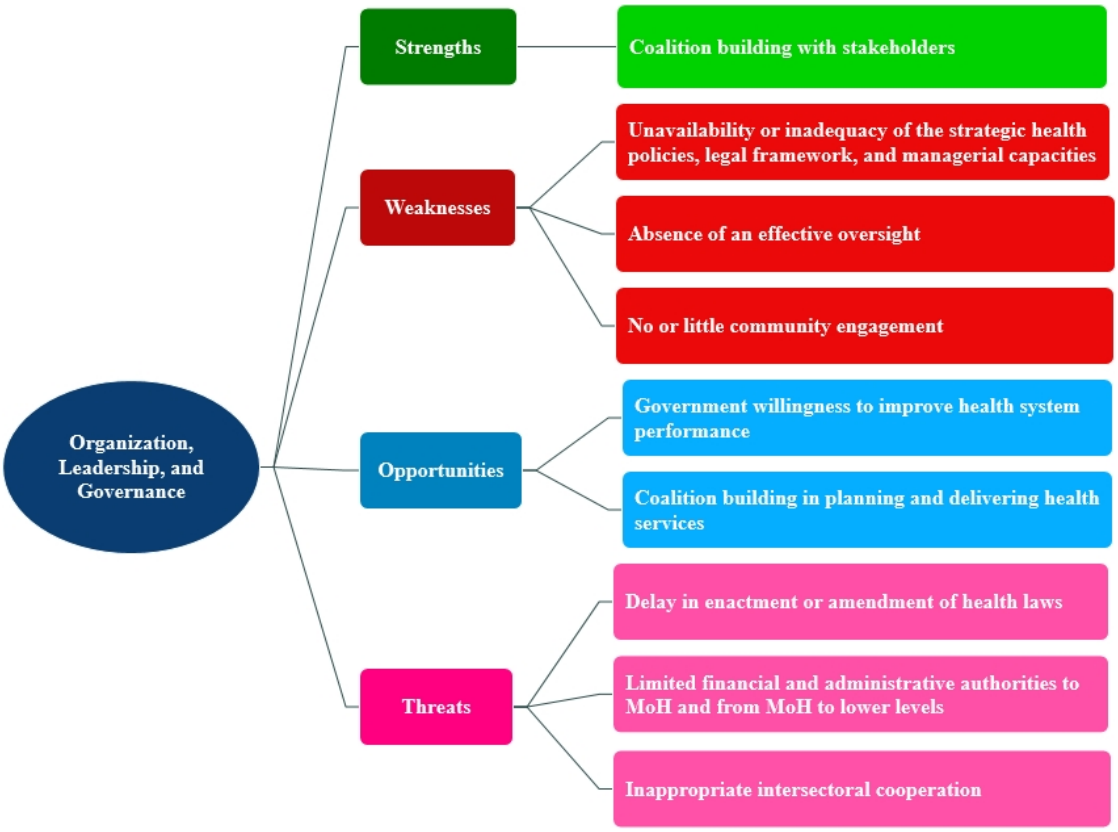

Figure 6: Mind map of the main subthemes of "organization, leadership, and governance"

Theme 8-Political, economic, environmental, epidemiological, behavioral, and socio-demographic transitions:

Figure 7 depicts the main subthemes of "political, economic, environmental, epidemiological, behavioral and socio-

demographic transitions" in the KRI health system.

The KIs thought that citizens mistrust in the current health system and have inadequate awareness about health-related issues. However, the improvement in the educational level of the people were believed to be an opportunity.

KIs indicated that KRI had been going through demographic and epidemiological transitions. The population growth rate is high. There is an ongoing increase in the population, which necessitates more health resources to be allocated. With the increase in the population, there is an increase in the relative and the absolute number of older people who need special health care that is costly most of the time. Moreover, KRI had shown an epidemiological transition. The prevalence of chronic non-communicable diseases such as diabetes, hypertension, cancer, etc., is increasing. At the same time, infectious disease epidemics and outbreaks still pose a risk to the community, including the most recent COVID epidemic.

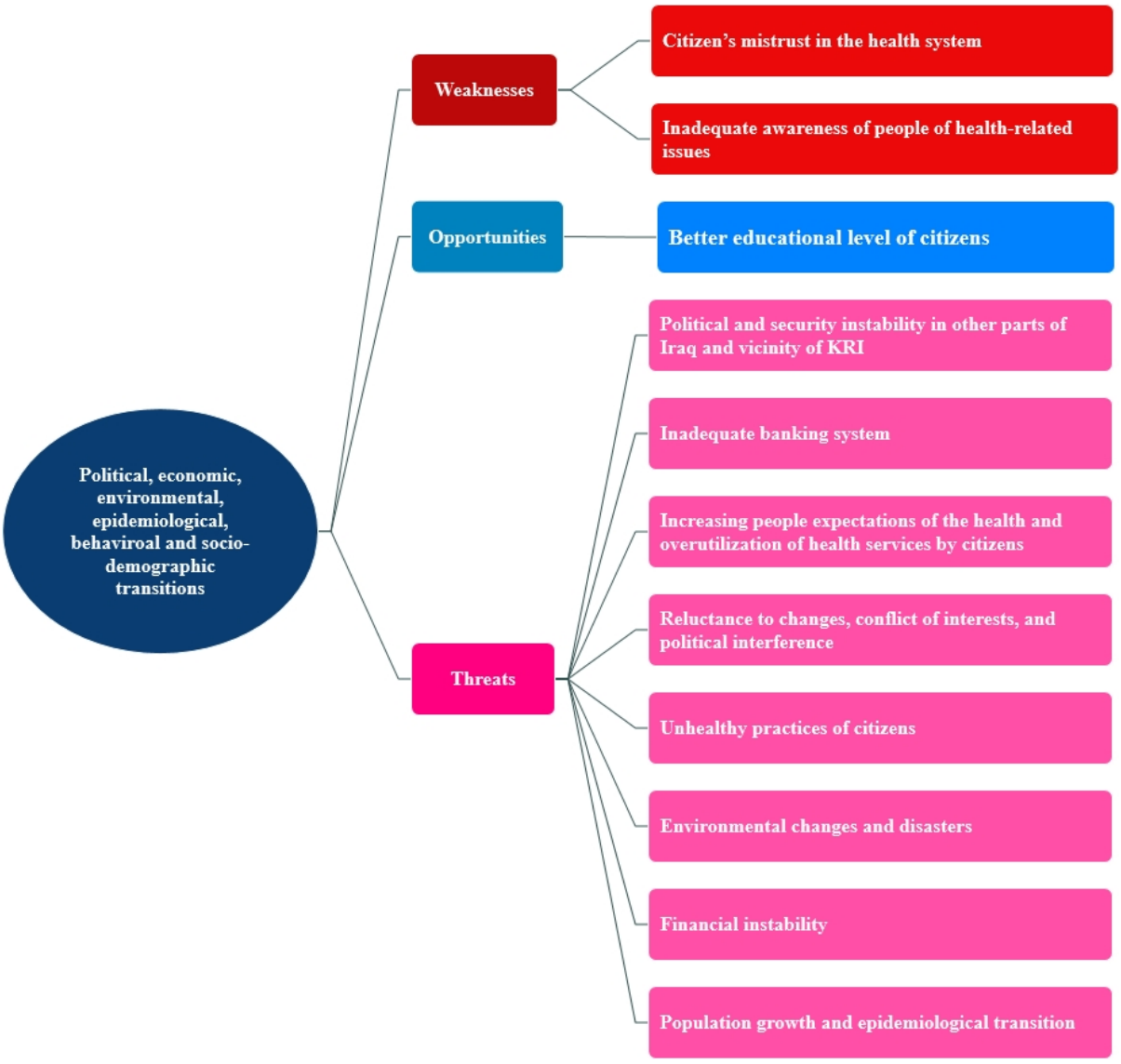

Figure 7: Mind map of the main subthemes of "political, economic, environmental, epidemiological, behavioral and socio-demographic transitions"

The current and future sudden financial crisis, environmental changes, disasters, and increasing unemployment in the KRI had been reported by KIs to risk the modernization efforts of the health sector.

KIs mentioned that unhealthy behaviors such as tobacco smoking, sedentary life, and drug addict negatively affect the health and consequently pose a threat to the health system.

The interviewed KIs indicated that reluctance to change, conflict of interests, and political interference would negatively impact the implementation of health sector reform initiatives. The interests of medical and health staff, community, tribes, politicians, private health facilities, and companies in the health sector may not coincide and impede the process of health system improvement.

The political and security tensions in other parts of Iraq and the vicinity of KRI pose a threat to the KRI, where it had been a safe place for about a million people who fled from other parts of Iraq and the neighboring countries. This, in turn, place a burden on the available government resources, including health services.

Increasing people expectations of the health, overutilization of health services by citizens, and inadequate banking were other threats to the health system performance.

B. Risk mitigation and imperative reform approaches to the challenges of the health system in the KRI

The KIs indicated a list of approaches and reform steps to mitigate the risk in the health system of the KRI. Risk mitigation is thought to be a continuous process that needs a frame to structure health reform. Political willingness was stated to be essential in the journey of health sector modernization.

Amendment, enactment, and implementation of laws of relevance to the health sector:

Both parliament and government were found to have a role in the amendment of the existing law or endorsement of new laws that were thought important in the process of health sector modernization. While the main responsibility is given to parliament as the legislative body in the KRI, it was also noted that the executive body made its efforts to propose amendments or endorsement of laws and support the implementation of the enacted laws. However, the participatory approach and engagement of the major stakeholders in the health decision-making process were found crucial to ensure that health laws can be implemented and meet the community's needs. The KIs also indicated that laws need to contain enough details to avoid different interpretations when implemented.

Establishment of Medical Council in the KRI was a key law. The KIs indicated that while establishing this law, it is essential to revise the law of the ministry of health and relevant health syndicates. The KIs clearly articulated that special law (s) is (are) mandated to separate the private and public health sectors, limit the dual practice, and regulate the private health sector growth and partnership with the public health sector. These efforts can be piloted in certain locations before full-scale implementation. Moreover, the growth of the two health sectors is thought of to be complementary rather than competitive to each other.

As mentioned by KIs, lessons can be learned from other countries to develop a system for health insurance that will need an endorsement by the parliament. During this system development, mobilization of the required resources to this system, including but not limited to infrastructure, was found crucial. As a parallel strategy, some KIs indicated that the KRI could adopt a system similar to the already established Kurdistan Cancer Fund to reinforce the health system with the needed resources.

Establishing an agency for food and drug was another legislative need which was proposed to be governed by the government. Few referred to establishing a law and a system for accreditation of health facilities, and a national council for accreditation of medical colleges to improve the quality of clinical education and training of health professionals.

Few other laws were also referred to by the KIs that need amendment while endorsing one or more of the previously mentioned proposed laws. These include, but are not limited to, public health law and laws of the relevant medical and health syndicates. Furthermore, few KIs stressed the implementation of the patients' rights law which is thought by another KI that it would better if such law is administered by an independent body to protect patients' rights.

Development of an evidence-based regional health policy, a strategic vision, and a long- term health development plan:

Strengthening of health workforce planning and management:

Increasing the number and skills of the medical and health workforce was deemed essential in the progress of the health system. Several initiatives were mentioned by some KIs, including close collaboration among MoH, MoP, and MoHE, revision and enforcement of job description, performance-based payment, hiring of more medical and health staff, increasing family physicians, upgrading skills of existing employees in short- and long-term training programs. Some of the quotations from the KIs are:

Management and financing strengthening and autonomy:

More autonomy and authority, financial and managerial, to health authorities were considered by the KIs as an essential prerequisite in reforming the KRI health system and overcoming of the challenges of the sector. There was recommendation to increase the health budget and dedication of a special budget to respond to health emergencies and epidemics. The budget allocation was believed to be the responsibility of the parliament and the relevant government authorities in the KRI. Furthermore, the development of a financing strategy and midterm health financing budget instead of fiscal year budgeting, and revision of service fees was also found as needed.

Strengthening supervision, monitoring and evaluation of the health sector management and performance:

Regular supervision, monitoring, and evaluation by the parliament and the government on the implementation of laws and regulations were indicated by KIs to improve health service provision to the community at public and private health facilities.

Strengthening and digitalizing health information system:

Few KIs stated that decisions should be based on health data and scientific evidence, and health services need to be digitalized. Furthermore, they mentioned that more investments need to be put into developing an electronic health strategy in the KRI.

Improvement of the governance of the pharmaceutical sector and medical technologies:

Other than the food and drug administration that was stressed by several KIs, the study found that there are other areas within the pharmaceutical sector, which need better performance. Conducting the pharmaceutical sector, developing medicine and health technology policy, and strengthening local production of medicines and medical supplies with an overall focus on the fair distribution of these products were found crucial by the KIs.

Provision of accessible and quality health care services with the focus on the notion of prevention, efficiency equity, and strengthening of public health facilities:

Health care that is people-centered, equitable, and efficient was among the key steps to modernizing the health sector. As the KIs reported, standard protocols need to be developed and implemented at clinical and managerial levels to provide ongoing health care. Furthermore, strengthening prevention, primary health care, and family medicine was stressed on.

Improvement of the coordination of health sectors with other government sectors

Collaboration with experts in health reform.

DISCUSSION

Community needs are continuously increasing and challenging health systems worldwide. Improvement of the learning about these health systems is crucial in the ongoing reform initiatives to improve the health sector of any country or region[7]. This study used purposive sampling to include the stakeholders in the KRI who have the greatest role in defining health strategies and laws and are active members of health reform initiatives.

In this SWOT analysis, it was evident that there are several strengths within the current health system in KRI. Some health indicators have improved, such as reducing infectious diseases and infant and maternal mortalities. Still, the KRI has not reached the UHC and SDGs and needs more effort to sustain the progress. Our study identified many shortcomings and threats in the KRI health system that may jeopardize the path to the UHC and SDGs. Decision-makers, elected officials, and health advisors are not the only ones who recognize these weaknesses and threats. A previous study among 250 medical professionals in Erbil city referred to some shortcomings that were also highlighted in our study[13].

KRI has witnessed an increase in available workforces during the last three decades, but this increase is below the expectation of health policy-makers to meet the community's needs. This view is consistent with findings of a study on workload assessment among doctors working in main primary health centers (PHC) in the Duhok governorate, which showed a gap of 145 medical doctors in the 61 studied PHCs for the existing workload[14]. The KIs believe that the shortage is highest in

districts, sub-districts, and remote geographical areas due to unfair distribution and the absence of initiative to retain staff, particularly medical doctors and nurses, in these locations. This maldistribution is deeply rooted in the existing health system of KRI in the past and now. In a study among 962 medical doctors in Erbil governorate, there was an unfair distribution of medical doctors geographically and professionally among the different medical specialties, and almost 95% of them showed higher financial benefits when working inside the metropolitan city of Erbil than outside[15].

Official government data shows that the number of physicians per 10,000 population in 2020 was 11, with different figures in different governorates (13 in Erbil, 12 in Sulaimaniyah, 6 in Duhok, and 9 in Halabja). Almost a similar pattern of availability was noticed for nurses. There were 17 nurses per 10,000 population (21 in Erbil, 15 in Sulaimaniyah, 14 in Duhok, and 4 in Halabja)[16]. This is far below the required minimum number for the attainment of UHC. In a systematic analysis of data of 204 countries, it is estimated that at least 20.7 medical doctors and 70.6 nurses and midwives per 10,000 population are necessary to reach UHC effective coverage of 80%[17].

Shortage and maldistribution of the health workforce were not the only challenges facing workforce planning and management within the health system. There were concerns about hiring, motivation, retention, and migration or brain drain of staff, particularly medical doctors. The lack of motivation was also a hindering factor in expanding family medicine or general practice in the KRI. Retaining the health workforce in urban areas is a global public health concern. A holistic approach to retention in remote and underserved regions includes efforts to academic education in rural settings, enrollment of students in medical and health fields from rural areas and their recruitment following completion, improvement of social environment, and availability of the required resources in the underserved areas, payment per performance as a remuneration procedure, and providing more skills development opportunities for those working in remote areas[18].

The dual practice of staff in the public and private sectors was also among the identified challenges that negatively impact the health system performance. This issue is not a new shortcoming, but budgetary constraints and inadequate number of existing staff are among the factors that prevent decision-makers from addressing this issue adequately[19].

The KIs see current academic health institutions as a weakness in one aspect and as an opportunity in another. There is a great opportunity for health decision-makers to collaborate with the currently available academic institutions to improve the identified weaknesses of quality of education programs, continuing professional development programs, and shortage in the number of staff in selected specialties.

The KI linked payment per performance to enhance workforce management. The absence of this scheme for paying health care providers negatively affected the performance of staff and, hence, the health system in KRI. Globally, there are many mechanisms for health care providers, but

the payment per performance has received decision-makers' attention. Yet, there is no consistent evidence supporting the role of payment per performance in improving health outcomes[20,21]. Rather, this scheme is designed to avoid misuse by health staff[22, 23].

Despite the allocation of a certain amount of budget by the government to health sectors from its main reliance on volatile oil resources for revenues, many financial constraints were recognized in the form of the absence of a financial strategy, limited financial authorities and autonomy, inefficiency in resources management, maldistribution of allocated resources. Furthermore, health is still not the first priority in budget allocation. There is no single best model to finance the health system that applies to all countries in the same way. The presence of health insurance combined with government budget support and financial autonomy to health facilities were found to be a key in improving the financing of the health system. Each country has its political and economic context; however, evidence indicates that robust health financing strategies that involve prepaid mechanisms, such as health insurance with or without government support, protect people financially and enhance the process of attaining UHC. Thailand's strategies of implementing public health insurance to improve health funding had desirable outcomes on access to universal coverage and dropping catastrophic health expenditures from 6% to 2% within 20 years[24]. In Turkey, the implementation of Green Card scheme as non-contributory scheme for health insurance for poor reduced the OOPS by 33% and catastrophic expenditures by 50%[25].

Concerns were raised among the KIs about the sustainable availability of certain medicines and medical technologies, the presence of counterfeit medicines and medical products, and the performance of the pharmaceutical sector despite the MoH efforts to enhance the role of the Kurdistan Medical Control Agency and the growth in the local pharmaceutical production sector. Part of these concerns was attributed to the absence of the National Good Governance for Medicines (GGM) implementation plan in the KRI. Globally, mitigating pharmaceutical governance challenges is recognized as an important step for health systems to respond to in the post-2015 Millennium Development Goals (MDGs) era[26]. Lessons learned from the Zimbabwe experience, GGM implementation is not easy and needs political commitment and adequate funding[27].

Most KIs indicated acceptable coverage of health facilities, particularly PHCs, where people can access services at nominal fees. Still, there were concerns about maldistribution across governorates and the different districts and sub-districts of a single governorate. The maldistribution of health facilities at different levels is evident also from official government data. According to KRSO figures for 2020, there are 1.6 hospital beds per 1,000 population in KRI; the highest is in Sulaimaniyah (1.8), followed by Erbil (1.7), Halabja (1.4), and Duhok (1.2)[16]. While some countries recommend a minimum of 2 beds per 1,000 population[28], there is no specific standard for the required hospital beds[29], and it depends mainly on local needs and global hospital

bed targets[30]. According to WHO, countries with a hospital bed density of less than 1.8 per 1,000 population have a critical shortage in access to secondary and tertiary health services[31].

Even though some of the KIs indicated that an adequate network of health facilities is available, they uncovered concerns of public citizens, decision-makers, and health care providers about the quality of these facilities' health services. Evidence showed that expanding health services without focusing on quality partly contributed to the slow progress of MDGs[32,33]. Quality is more than just safety; it also includes other parameters and is an essential dimension of the effectiveness of UHC[34]. The KIs also indicated that quality is important for increasing satisfaction among people, which is consistent with a previous cross-sectional study in the three governorates of the KRI, which revealed a positive association between quality of health care and patient satisfaction[35]. Within the parameter of health care quality, there was a clear weakness in the KRI health system which resulted from inadequate nursing care. This understanding of the role of effective communication between nurses and patients nurses in enhancing patient-centered care is also cited by others[36].

In order to modernize the health systems in the KRI, there were calls for optimizing the quality and adopting the accreditation of health facilities in public and private health facilities. However, it would be necessary to cover all quality domains in health care reform initiatives, such as patient-centeredness, patient safety, equity, efficiency, effectiveness, and timeliness, to ensure optimal health care is provided to citizens[37].

Curative-focused health care and weak referral among the different levels of health care were other recognized challenges in the KRI that have led to inefficiency in health care utilization and shortcomings in primary health care. The challenges in primary health care center functioning are consistent with the result of the qualitative study among 40 primary health care providers in Erbil city. In the latter study, several shortcomings in the existing primary care services were identified, such as the poor referral system and inadequate resources[38]. A systematic review showed that gatekeeping is associated with a better quality of care, fewer hospitalization, and lower health care costs[39].

A concordance was noticed amongst some respondents in our study about the inadequacy, fragmentation quality of the health information system in terms of data collection and analysis. A further challenge arose because of insufficient reliance on research in health decisions and policies. A study conducted in Iraqi Kurdistan revealed that 80% of policy-makers base their evidence on conferences and seminars than on scientific research[40].

The most critical issue highlighted in this study was the concerns about governance and leadership as they affect the performance of any health system components. The concerns were mainly about the absence of the needed laws and regulations, oversight and accountability mechanisms, and strategic vision and policy for health in the KRI. Governance and leadership are vital to the health system functioning that synergize the

relationship among the different blocks of the health system[41].

Given the increasing interest of the KIs in improving the health system, several interventions were highlighted to overcome the challenges in the existing health system of the KRI. There were calls for developing a long-term regional health vision policy and vision backed by the enactment of new laws such as dual practice organization, health facility accreditation, the establishment of a Medical Council, or amendment of some other laws of relevance to the health sector such laws of MoH and medical and health syndicates. Mobilizing additional resources through introducing the health insurance system and improving efficiency in service delivery were other steps that the KIs addressed to sustain the modernization of the health system and achieve UHC and SDGs. Under the umbrella of these main imperative reform steps, several other steps were identified that need strengthening, such as health information system, health workforce planning and management, financial management and autonomy, governance and leadership, quality of health services, pharmaceutical sector, and multi-sectorial coordination.

The KIs envisaged the need for modernizing the KRI health system; however, political, socioeconomic, and environmental contextual factors might hamper these reform initiatives in the KRI and thus are crucial to be tackled. These factors may mitigate or exacerbate health outcomes[42]. A previous study indicated political, economic, and humanitarian crises affected the performance of the primary health care system in the KRI[43].

Both legislative body, represented by the parliament, and executive authorities, represented by the different government agencies, in the KRI has a role in mitigating all the weaknesses and threats in the health system. The study provides a piece of policy evidence and a framework of the potential health strategies for the current and the coming government cabinets and parliament rounds in the KRI to improve the health sector and contribute to achieving the SDG by 2030.

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CONFLICT OF INTEREST

The authors declared that they have no conflict of interest to disclose.

ADDITIONAL FILE

KI quotations for each theme, subtheme, or reform step are stored as a supplementary file in the Mendeley data repository under the reserved doi: 10.17632/gktp9y2sss.1, which can be accessed at https://data.mendeley.com/datasets/gktp9y2sss/1.

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پوختە

ئەدا و دەستپێخەریێن پێویست بو چاکرنا سیستەمێ تەندروستی ل هەرێما کوردستانێ عیراقی: شلوقەکرنەکا جوری یا سوات ب بۆچونا لایەنێن پەیوەندیدار

پێشەکی و ئارمانج: سیستەمێن تەندروستی دینامیکی نە و دگەل تێپەربوونا دەمی گەشێ دگەت. زۆر گرنگە کو مروڤ ل هەمی تەوەرێن سیستەمێ تەندروستی بنێریت پێش جێبەجێکرنا هەر ڕێفورمەکی یان چاکسازیەکی د هەمی یان بەشەکێ سیستەمێ تەندروستی. ئەڤ ڤەکولینە هاتیە ئەنجامدان ژ بو شلوقەکرنا ئەدایا سیستەمێ تەندروستی ل هەرێما کوردستانا عیراقی و دیارکرنا گرنگترین بێنگاڤێن چاکسازیێ پێن پێدڤی بو کێمکرنا بەربەستێن سیستەمێ ناڤبری.

ڕێکێن کاری: دیراسەیەکا جوری هاتە ئەنجامدان ل سالا ٢٠٢١ بو داخازکرنا (٣٧) ژ لایەنێن پەیوەندیدار و بریاردەر و راوێژکار و شارەزایا ژ پەرلمانێ کوردستانێ، وەزارەتا تەندروستی، ئەنجومەنێ وەزیران، وەزارەتا دارایی و شارەزایا د بواریّ تەندروستی. سیھ و ئێک کەسا بەرسڤا پرسیارنەمەکا یا پێکهاتی ژ پرسیارێن ڤەکری دا.

ئەنجام: ل دەمەکی کو سیستەمێ تەندروستی ل هەرێما کوردستانا عیراقێ چەندین خاڵێن ب هێز و دەرفەت هەبوویەت بو زێدەتر گەشەپێدانێ، لێ خاڵێن لاوزا و هەڕەشە لسەر زۆر زێدەتر بووینە. ئەو تەوەرێن زێدەتر جهێ بایەخێ بوون، نەبوونا چەندێن یاسایێن گرنگ وەک ئەنجومەنێ تەندروستی، بیما تەندروستی، ڕێکخستنا کەرتی گشتی و تایبەت، متمانەپێدان، دەزگەها خوراک و دەرمانا، و نەبوونا سیاسەتەک و پلانەکا ستراتیژی بو کەرتێ تەندروستی ل هەرێما کوردستانێ. پەرلەمان و دەستهەلاتدارێن حکومی ب هەمی دەزگایێن حکومی پێن پەیوەندیدار ڕۆل هەیە ژ بو کیمکرنا هەمی لاوازی و هەڕەشێن د سیستەمێ تەندروستی هەین.

دەستکەفتیێن ڤەکولینێ: ئەڤ ڤەکولینە بەڵگەیا سیاسیە و چوارچێوەیەکە بو ستراتیژیێن تەندروستی پێن پێدڤی کو کابینێن حکومی پێن نوکە و ل پاشەروژی و خولێن پەرلەمانی ل هەرێما کوردستانا عیراقێ کار لسەر بکەن بو باشترلێکرنا کەرتێ تەندروستی و بدەستڤەئینانا ئارمانجێن گەشەپێدانا بەردەوام تا سالا ٢٠٣٠. هەروەسا ڕێنشاندەرەکە بو ڤەکولەرا بو زێدەتر دیراسەتکرنا ئاریشێن سیستەمێ تەندروستی و دەستنیشانکرنا چارەسەریێن گونجاو.

الخلاصة

أداء ومبادرات إصلاح النظام الصحي في إقليم كوردستان العراق: دراسة نوعية للتحليل الرباعي من وجهة نظر أصحاب المصلحة

الخلفية والأهداف: الأنظمة الصحية ديناميكية وتتطور بمرور الوقت. من الضروري النظر إلى النظام الصحي بأكمله قبل تنفيذ أي تدخل لتحديث النظام الصحي بأكمله أو أحد مكوناته. أجريت هذه الدراسة لتحليل أداء النظام الصحي في إقليم كردستان العراق البحث عن خطوات الإصلاح الاساسية للتخفيف من التحديات التي تم تواجه هذا النظام.

طرق العمل: أجريت دراسة نوعية في عام 2021 لاشراك (37) أصحاب المصلحة والقرار والمستشارين والخبراء من برلمان كوردستان ووزارة الصحة ومجلس وزراء اقليم كوردستان العراق ووزارة المالية وخبراء خارجيين في المجال الصحي. حيث تم الرد من قبل (31) من المشاركين على استبيان ذاتي مكون من أسئلة مفتوحة.

النتائج: بينما كان للنظام الصحي في إقليم كردستان العراق نقاط قوته وفرصه لمواصلة تحديثه، كان هناك الكثير من نقاط الضعف والتهديدات التي يواجهها. وتمثلت المجالات التي حظيت باهتمام كبير هي عدم وجود العديد من القوانين الحيوية مثل المجلس الطبي، والتأمين الصحي، وتنظيم القطاع العام والخاص، والاعتمادية، ومؤسسة الغذاء والدواء، وغياب سياسة صحية إقليمية وخطة استراتيجية. للبرلمان والسلطات التنفيذية ممثلة بمختلف الجهات الحكومية في إقليم كردستان العراق دور في التخفيف من جميع نقاط الضعف والتهديدات التي تواجه النظام الصحي.

الاستنتاجات: تقدم الدراسة دليلا للسياسات وإطارا للاستراتيجيات الصحية للحكومات الحالية والقادمة والدورات البرلمانية في إقليم كردستان العراق لتحسين القطاع الصحي والمساهمة في تحقيق أهداف التنمية المستدامة بحلول عام 2030. وأيضا تقدم خارطة طريق للباحثين لدراسة مشاكل النظام الصحي وايجاد الحلول الملائمة لها.