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Health Information Systems On Improving Primary Health Care Delivery The Role Of Family Medicine Physicians And Nurses In Health Management In Saudi Arabia 2024

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Abstract

Background

The value of various health information systems for managing the environment and the overall transformation of corporate structure brought about by the development of Health Information Systems (HIS) have become vital components in modernizing primary health care (PHC), aiming to enhance efficiency, accessibility, and quality of care. Despite the tremendous potential that information systems (IS) provide in supporting primary health care functioning, the design, development and implementation of these systems is a non-trivial task.. Nurses and family medicine physicians are integral to HIS implementation and utilization, contributing to patient-centered care, chronic disease management, and preventive health strategies. Additionally, technology has altered the information requirements and company structure. The introduction and application of information technologies (IT) in healthcare in our increasingly globalized society has been greatly aided by advancements in computer science and the growing need for communication. Despite these advantages, challenges such as system interoperability issues, inadequate training, **Aim of the study**: To assessment of the Health Information Systems on Improving Primary Health Care , role of Family Medicine physicians and Nursing in Health Management in Saudi Arabia 2024. **Method:** This is a cross-sectional study targeting health care workers in Saudi Arabia. Two validated questionnaires were used; the first validated questionnaire focuses on assessment Health Information Systems on Improving Primary Health Care and Role of Family Medicine physicians and Nursing. **Results:** the majority of participants age 40-49 years were (37.0%) regarding gender the majority of participant male were (58.0%) majority of participant health Family Medicine were (43.0%) **Conclusion**: Family Medicine physicians and Nursing professionals play pivotal roles in leveraging these systems, contributing to improved health outcomes through their active participation in patient-centered care and health management strategies. Integral to HIS implementation and utilization, contributing to patient-centered care, chronic disease management, and

preventive health strategies . Despite these advantages, challenges such as system interoperability issues, inadequate training, and resistance to adoption often hinder effective integration.

Keywords: Health Information Systems, Improving, Primary Health Care, Role , Family physicians, Nurses , Health Management, Saudi Arabia .

Introduction

Health information system is not a separate and independent component of the health system, and it should be designed according to the service delivery system.[1] health information systems is utilized for collecting, processing, storing, retrieving, and transferring the required information.[2] HIS aims to improve the processes of data handling in order to extract useful information for health planning, decision-making, and resource allocation through different sources to provide quality services.[3] the countries are faced with a wide variety of health-related challenges including the limited resources and capabilities[4] the health systems that address those challenges, have inevitably moved into maximizing the value of scarce resources and finding ways to make health systems functions as efficiently as possible.[5]

The integration of HIS into primary health care has been recognized as a transformative approach to addressing inefficiencies, enhancing patient outcomes, and fostering a patient-centered care model.[6] Primary care is defined by the World Health Organization as "a model of care that supports first-contact, accessible, continuous, comprehensive and coordinated person-focused care" while achieving equitable access to care and emphasizing population health [3]

Historically, Saudi Arabia's healthcare system has been primarily focused on acute care and specialized medical services. The foundational era of the 20th century saw a limited emphasis on primary health care, with healthcare services largely characterized by hospital-centered care. However, the realization of the importance of accessible and comprehensive healthcare services paved the way for the emergence and formal recognition of family medicine .[7]

The field of family medicine has undergone profound transformations globally, adapting to the needs and dynamics of diverse populations. In Saudi Arabia, this evolution has been particularly significant, shaped by cultural, social, and economic developments, as well as the country's unique healthcare challenges.[8] As healthcare systems evolve in response to emerging health concerns, technological advancements, and shifting demographics, the role of family medicine has become increasingly paramount. This introductory research essay delves into the evolution of family medicine in Saudi Arabia [9]

As Saudi Arabia transitioned into the 21st century, the country began to implement a series of reforms aimed at enhancing its healthcare system. The Saudi Vision 2030 framework is a long-term plan for economic and social development, with healthcare reform as one of its cornerstones. This initiative has underscored the importance of family medicine in providing comprehensive care that prioritizes the needs of families and communities [10]

In the dynamic landscape of contemporary healthcare, the significance of preventive measures has gained unprecedented recognition. [11] With the escalating prevalence of chronic diseases coupled with increasing healthcare costs, the emphasis on preventive healthcare is more critical than ever. Family medicine, a unique branch of primary health care, plays an integral role in this paradigm shift. By centering on holistic patient care, continuity, and accessibility, family medicine emerges as a cornerstone in the promotion of preventive healthcare practices [12]

Nursing time represents the single highest cost for most health services. Healthcare services around the world are also experiencing a shortage of nursing staff [13]. The effective delivery of primary health care (PHC) is pivotal in achieving comprehensive health coverage and improving population health outcomes. In recent decades, health information systems (HIS) have emerged as a cornerstone of modern health care, offering tools that streamline clinical processes, improve data accuracy, and support evidence-based decision-making [14]

At its core, family medicine and nursing is characterized by a comprehensive and continuous approach to patient care, addressing a wide array of health concerns across all ages. Family physicians, or family doctors and nursing serve as the first point of contact for patients seeking healthcare, often managing complex, chronic illnesses while also guiding patients toward preventive measures. [15]This unique

position enables family medicine and nursing practitioners to build relationships with their patients, fostering a deeper understanding of their families' health histories, risk factors, and social determinants of health. Through regular check-ups, screenings, and counseling, family physicians and nursing can detect potential health issues before they escalate into serious conditions [16]

Literature review

Study by Yousef. et al (2023) , reported that we look forward, the expansion of the family medicine practitioners health model is likely to foster greater collaboration among healthcare teams. By employing advanced communication strategies, including tele-health and electronic health records (EHRs), family medicine can increase its capacity to manage holistic patient care. This transformation could lead to a more proactive healthcare system, wherein patients are engaged in their health journeys, leading to better adherence to treatment plans and improved health outcomes [11]

Study by Gala. et al. (2024), found that Health Information Systems in Primary Health Care Health information systems (HIS) are critical systems deployed to help organizations and all stakeholders within the healthcare arena eradicate disjointed information and modernize health processes by integrating different health functions and departments across the healthcare arena for better healthcare delivery [17]. Over time, the HIS has transformed significantly amidst several players such as political, economic, socio-technical, and technological factors that influence the ability to afford quality healthcare services [18].

Technology provides numerous opportunities for the private sector to invest in medical devices, digital health, e-health, and m-health to transform healthcare [19] as in the case of the National Home Healthcare Platform Serving (NHHCP) under the Saudi MOH new model of care initiative [20]

Another of current issues is that appropriate tools for transforming the information for decision-making are not always applied properly. Based on the study by Mansour et al. in Riyadh 2016, order to effectively manage PHC services and bring it closer to the grassroots, intense re-invigoration and dissemination of comprehensive information between rural and urban areas is required.[21] In supplies component, the participants identified that paperwork in data registration and transmission spends much time, and this makes the system inefficiently. Study by Alhomaidhi et al. in 2019 reported expressed that the computerized systems are more useful and efficient than paperwork because of the further improvement of the efficiency in management processes, saving more time in locating information, more economical use of financial resources and greater ease and speed of data recovery.[22]

Nurses are pivotal in implementing and utilizing HIS in PHC settings. Research highlights that nursing professionals' benefit from HIS by gaining access to centralized patient data, enabling more informed care delivery and reducing the administrative burden. Nurses are committed to meeting the diverse and often complex needs of people with competence and compassion. [23]

Nurses, particularly those who work in communities and public health settings, may also face the stress of encountering health inequities laid bare, such as hazardous housing and food insecurity. [24]. Ghadi et al (2021) addressed seven ways to improve quality and safety in any health care as the following: (1) 'Align organizational processes with external pressure. (2) Put quality high on the agenda. (3) Implement supportive organization-wide systems for quality improvement. (4) Assure responsibilities and team expertise at departmental level. (5) Organize care pathways based on evidence of quality and safety interventions. (6) Implement pathway-oriented information systems. (7) Conduct regular assessment and provide feedback'. The health system in Saudi Arabia (SA) has three sectors: the Ministry of Health sector (MOH), the private sector and other government sectors. The MOH is the major government provider of health services in Saudi Arabian .[25]

Rationale:

Family medicine physicians and Nurses in implementing and utilizing HIS in PHC settings very important. Research highlights that Family medicine physicians and Nurses professionals' benefit from HIS by gaining access to centralized patient data, enabling more informed care delivery and reducing the administrative burden. Patients face organizational, geographic, and socioeconomic barriers that impede PHC access and force overreliance on emergency services. Moreover, the PHC system faces significant gaps in areas like preventive care, health information systems, care coordination, and equity,

with patients facing organizational, geographic, and socioeconomic barriers that impede access and overreliance on emergency services. Workforce limitations, particularly in rural areas, contribute to suboptimal quality. Strengthening PHCs is crucial for achieving Saudi Vision 2030 goals of improved population health outcomes, user experience, care integration, and healthcare sustainability.

Aim of the study:
To assessment of the Health Information Systems on Improving Primary Health Care, in Saudi Arabia 2024 .

Specific objectives:
To assessment the role of Family Medicine physicians and Nursing in Health Management in Saudi Arabia 2024 .

Methodology .
This is a cross-sectional study targeting Family Medicine physicians and Nursing.in Saudi Arabia. Two validated questionnaires were used; the first validated questionnaire focuses on assessment Health Information Systems on Improving Primary Health Care and Role of Family Medicine physicians and Nursing. This study was conducted with the support and collaboration of the Primary Health Care Department and Health Information Systems of the Ministry of Health, Saudi Arabia, from July October 2024. Based on the literature review of previous studies conducted for similar purposes, relevant questionnaires were developed. These consisted of forms, each of which was directed at a different authority to achieve the above-mentioned objectives. Data of all questionnaires were coded, entered, and analyzed using SPSS version 24.

Study Area
The study has been conducted from Family Medicine physicians and Nursing in Primary Health Care, in Saudi Arabia 2024.

Study population:
Family Medicine physicians and Nursing about Health Information Systems on Improving Primary Health Care, in Saudi Arabia 2024

Eligibility Criteria
Inclusion criteria:
- Saudi Family Medicine physicians and Nursing**.**
- Agreed to participant and asked to complete survey **.**

Exclusion criteria:
- There were no exclusion criteria

Sample Size
The sample size has been calculated by applying Raosoft sample size calculator based on (The margin of error: 5%, Confidence level: 95%, and the response distribution was considered to be 20%) accordingly the Sample size is 300 of Family Medicine physicians and Nursing in health sector after adding 10 more to decrease margin of error. After adding 5% oversampling, the minimum calculated sample has been 300. Computer generated simple random sampling technique was used to select the study participants **.**

Sampling Technique
The target Family Medicine physicians and Nursing were selected from health sector of the Saudi Arabia during the study period. There were health sectors in the Saudi Arabia. By simple random sampling technique, selected out , after being informed about the objectives of the study .

Data Collection Tool
The questionnaire was designed and built through the application of brainstorming sessions and panel discussion among the research team. Its design involved multiple steps drafting, content-focused and data-focused pilots, literature reviews, and careful consideration of outcomes to measure. He's consisted of four forms, each of which was directed at a different authority to achieve the above-mentioned goals. The first questionnaire comprising many questions on the current practice and training in FM in KSA (political commitment for role of Family Medicine physicians and Nursing , strategic plan, funding, and support for postgraduate training programs in FM). The second form, administered to the directors

of PHCC in the regions in KSA , the number of PHCC, Family Medicine and nurses, diagnostic facilities available, effective referral.

Data Collection Technique

The researcher has been visiting the heath sectors in Saudi Arabia after getting official permissions to conduct the study . They have been explaining the purpose of the study to the Health sector in Saudi Arabia head in each setting. Then, the questionnaire has been distributed on participant different after explaining the purpose of the study and how to fill the questionnaire to them.

Data Entry and Analysis

Data has been collected, reviewed, coded and entered into the personal computer. Data has been presented in the form of frequencies and percentages. Chi-squared test ($\chi 2$) has been used for comparing qualitative data. Other statistical test has been applied whenever appropriate. Statistical significance has been considered at p-value ≤ 0.05. Analysis has been done using SPSS program version 24 .

Pilot Study

A pilot study was conducted on 30 eligible Family Medicine physicians and Nursing and face validity of the used questionnaire. No modifications were performed on the used questionnaire; results of the pilot study were not included in the present study.

Ethical Considerations

The proposal was submitted review Committee Saudi Arabia, and data collection was commenced after ethical clearance.

A written consent form with a statement of confidentiality was taken from participant who welcomed participation in the present study; confidentiality of the data was confirmed

Budget

The research will be self-funded

Result

Table 1: Distribution of demographic profile of the Health care workers over the study period (n = 300).

	N	**%**
Age		
< 30 years old	60	20
30-39 years	69	23
40-49 years	111	37
Above 50 years	60	20
Gender		
Female	126	42
Male	174	58
Job classification		
Physician	57	19
Family Medicine	129	43
Pharmacist	60	20
Technician (nursing)	54	18
Level of education		
Diploma	126	42
Bachelor’s degree	96	32
Master’s degree or equivalent	45	15

MD, PhD degree or equivalent	33	11
Working experience		
0–3 years	117	39
5–9 years	102	34
<10 years	81	27
Language barrier		
Always/Sometimes	126	42
Rarely	96	32
Never	78	26

Regarding socio demographic characteristics, table 1 shows that the majority of participants age 40-49 years were (37.0%) and 30-39 years of age were (23.0%), while < 30 years and above 50 were respectively (20.0 %), regarding gender the majority of participant male were (58.0%) but female were (42.0%), regarding the job classification the majority of participant health Family Medicine were (43.0%), but physician were (20.0%) while technician (nursing) were (18.0%) followed by pharmacist were (20.0%), regarding the level of education is the majority of participant diploma were (42.0%) but bachelor's degree or equivalent were (32.0%), while master's degree were (15.0%) but MD, PhD degree or equivalent were (11.0%), regarding the working experience majority of participant 0-3 years were (39.0%) but 5-9 years were (34.0%), while <10 years were (27.0%), regarding language barrier the majority of participant always/Sometimes were (42.0%) but rarely were (32.0%), while never were (26.0%)

Table 2: Distribution of health care workers (Family Medicine And nursing) knowledge on Health Information Systems on Improving Primary Health Care Delivery

Variable	N	%
Are you familiar with the following terms: Improving Primary Health Care Delivery?		
Yes	60	20
No	96	32
I'm not sure	144	48
Are you familiar with Health Information Systems		
Yes	75	**25**
No	96	**32**
I'm not sure	129	43
How do you assess your satisfaction in general about Health Information Systems at Saudi Arabia?		
Very Satisfied	120	40
Satisfied	75	25
Unsatisfied	63	21
Very Dissatisfied	42	14
How do you assess your satisfaction in general about Primary Health Care Delivery at Saudi Arabia?		
Very Satisfied	105	35
Satisfied	63	21
Unsatisfied	93	31
Very Dissatisfied	39	13
Which areas have opportunities for improvement and possible action to improve medical services?		

Primary medical care (clinics)	45	15
Logistics and supply services	30	10
Infrastructure	69	23
Technical Infrastructure	177	59
Which areas have core competencies for medical serves for improvement		
Empowerment of medical care	96	32
Training programs	90	30
Communication	60	20
Self-management	54	18
Which areas have core competencies medical services for improvement		
Family Medicine (clinics)	90	30
Primary medical care (clinics)	87	29
medical services (nursing unit)	75	25
Health education	30	10
The organization aspects of the medical center	18	6

Regarding Distribution of health care workers (Family Medicine And nursing) knowledge on Health Information Systems on Improving Primary Health Care Delivery, table 2 shows regarding you familiar with the following terms: Improving Primary Health Care Delivery the majority of participants answer No were (32.0%) while I'm not sure were (48.0%), while answer Yes were (20.0%), regarding Are you familiar with Health Information Systems the majority of participants answer No were (32.0%) while I'm not sure were (43.0%), while answer Yes were (25.0%), regarding do you assess your satisfaction in general about Health Information Systems at Saudi Arabia the majority of participant very Satisfied were (40.0%) but Satisfied were (25.0%) while unsatisfied were (21.0%) while very dissatisfied were (14.0%), regarding do you assess your satisfaction in general about Primary Health Care Delivery at Saudi Arabia the majority of participant very Satisfied were (35.0%) but Satisfied were (21.0%) while unsatisfied were (31.0%) while very dissatisfied were (13.0%), regarding areas have opportunities for improvement and possible action to improve medical services the majority of participant technical Infrastructure were (59.0%), followed by infrastructure were (23.0%) while Primary medical care (clinics) were (15.0%), regarding the Which areas have core competencies for medical serves for improvement the majority of participant empowerment of employees were (32.0%) but training programs were (30.0%), while communication were (20.0%) but Self-management were (18.0%), regarding the which areas have core competencies medical services for improvement majority of participant Family Medicine (clinics) were (30.0%) but Primary medical care (clinics)were (29.0%), while medical services (nursing unit) were (25.0%) but the Health education were (10.0%) while the organization aspects of the medical center were (9.0%) while others were (6.0%) .

Table 3. Distribution of Family Medicine perceptions about Health Information Systems ways to Improving Primary Health Car

Variable						% Of satisfaction	Chi-square	
		Very Satisfied	Satisfied	Unsatisfied	Very Dissatisfied		X^2	P-value
Is the Primary Health Care Centre ready to provide its Health Information Systems services	N	66	87	60	87	61	7.920	0.048
	%	22	29	20	29			

The application of the Health Information Systems project will work effectively in the Medical Centres?	**N**	132	90	57	21	77.75	89.520	0.000
	%	44	30	19	7			
There will be an expected improvement in Primary Health Care Delivery in during the services Health Information Systems	**N**	114	120	36	30	76.5	94.560	0.000
	%	38	40	12	10			
The Health Information Systems will increase efficiency and improve the Primary Health Care Delivery	**N**	198	57	15	30	85.25	281.040	0.000
	%	66	19	5	10			
Implementing the Health Information Systems will to manage medical services and Improving Primary Health Care Delivery bridge the budget deficit	**N**	213	45	18	24	87.25	343.920	0.000
	%	71	15	6	8			
The Role of Nursing and Family Medicine will contribute to developing and modernizing health Care Delivery in the Medical Centre	**N**	192	45	30	33	83	245.040	0.000
	%	64	15	10	11			
The implementation of the Health Information Systems will	**N**	225	45	12	18	89.75	408.240	0.000
	%	75	15	4	6			

contribute to the achievement of job satisfaction for the Family Medicine and Nursing .								

Table 3 Distribution of Family Medicine perceptions about Health Information Systems ways to Improving Primary Health Car show regarding the Primary Health Care Centre ready to provide its Health Information Systems services while a significant relation were (P-value =0.048) and X^2 (7.920) while % of agreement were (61.0) the majority of participant Satisfied were (29.0%) followed by the very dissatisfied were (29.0%) while very Satisfied were (22.0%) but unsatisfied were (20.0%), regarding the application of the Health Information Systems project will work effectively in the Medical Centres while a significant relation were (P-value =0.000) and X^2 (89.520) while % of agreement were (77.75) the majority of participant very Satisfied were (44.0%) followed by the very dissatisfied were (7.0%) while Satisfied were (30.0%) but unsatisfied were (19.0%), regarding will be an expected improvement in Primary Health Care Delivery in during the services Health Information Systems while a significant relation were (P-value =0.000) and X^2 (94.560) while % of agreement were (76.5) the majority of participant Satisfied were (40.0%) followed by the very satisfied were (38.0%) while very dissatisfied were (10.0%) but unsatisfied were (12.0%), regarding the Health Information Systems will increase efficiency and improve the Primary Health Care Delivery while a significant relation were (P-value =0.000) and X^2 (281.040) while % of agreement were (82.25) the majority of participant very Satisfied were (66.0%) followed by the satisfied were (19.0%) while unsatisfied were (10.0%) but very dissatisfied were (5.0%), regarding Implementing the Health Information Systems will to manage medical services and Improving Primary Health Care Delivery bridge the budget deficit while a significant relation were (P-value =0.000) and X^2 (343.920) while % of agreement were (87.25) the majority of participant very Satisfied were (71.0%) followed by the satisfied were (15.0%) while very dissatisfied were (8.0%) but unsatisfied were (6.0%), regarding the role of Nursing and Family Medicine will contribute to developing and modernizing health Care Delivery in the Medical Centre while a significant relation were (P-value =0.000) and X^2 (245.040) while % of agreement were (83.0) the majority of participant very Satisfied were (64.0%) followed by satisfied were (15.0%) while very dissatisfied were (11.0%) but unsatisfied were (10.0%), regarding the implementation of the Health Information Systems will contribute to the achievement of job satisfaction for the Family Medicine and Nursing while a significant relation were (P-value =0.000) and X^2 (408.240) while % of agreement were (89.75) the majority of participant very Satisfied were (75.0%) followed by the satisfied were (15.0%) while very dissatisfied were (6.0%) but unsatisfied were (4.0%),

Table 4. Distribution of Family Medicine and nursing suggestions for about Improving Primary Health Care Delivery throe Health Information Systems

Variable	N	%
Family Physician and nursing suggestions and comments around Improving Primary Health Care work in the medical centers.		
Infrastructure development	210	70
Improving the Health Information network in medical .	192	64
Assigning a qualified employee for a Health Information Systems unit	120	40
Increase the number of qualified Family Medicine and nursing and provide training programs for all levels.	96	32
Improvement of logistics and supply services	231	77
What opportunities can the Primary Health Care Administration take advantage of to increase the role of nursing and family medicine?		

premarital examination and examination of employees for getting new jobs	240	80
Training courses and scientific conferences	180	60
Vaccination programs	240	80
Invest in virtual clinics	270	90
provide service to patients, health education	255	85
Invest in health information systems and virtual clinics	210	70
What challenges may the Nursing and Family Medicine witness if implementing the Health Information Systems?		
The medical services provided need improvement	105	35
Medical services are not ready and will not meet the customer's desires (patient) regarding Health Information Systems	78	26
Current medical devices, and the Health Information Systems currently used need to Improving	60	20
Lack of number of Physician and nursing.	45	15
Resistance to change.	150	50
Lack of budget to meet the necessary needs.	120	40

Regarding distribution of Family Medicine and nursing suggestions for about Improving Primary Health Care Delivery throe Health Information Systems table 4 shows regarding Family Physician and nursing suggestions and comments around Improving Primary Health Care work in the medical centers the majority of participants answer Improvement of logistics and supply services were (77.0%) but Infrastructure development were (70.0%) while Improving the Health Information network in medical were (64.0%), while assigning a qualified employee for a Health Information Systems unit were (40.0), followed Increase the number of qualified Family Medicine and nursing and provide training programs for all levels. (32.0%), regarding what opportunities can the Primary Health Care Administration take advantage of to increase the role of nursing and family medicine the majority of participant deal Invest in virtual clinics were (90.0%) but provide service to patients, health education were (85.0%) while premarital examination and examination of employees for getting new jobs and Vaccination programs were (80.0%) while Invest in health information systems and virtual clinics were (70.0%), followed Training courses and scientific conferences were (60.0%) , regarding the challenges may the Nursing and Family Medicine witness if implementing the Health Information Systems the majority of participant resistance to change were (50.0%) but lack of budget to meet the necessary needs were (40.0%), while The medical services provided need improvement were (35.0%) but medical services are not ready and will not meet the customer's desires (patient) regarding Health Information Systems were (26.0%) .

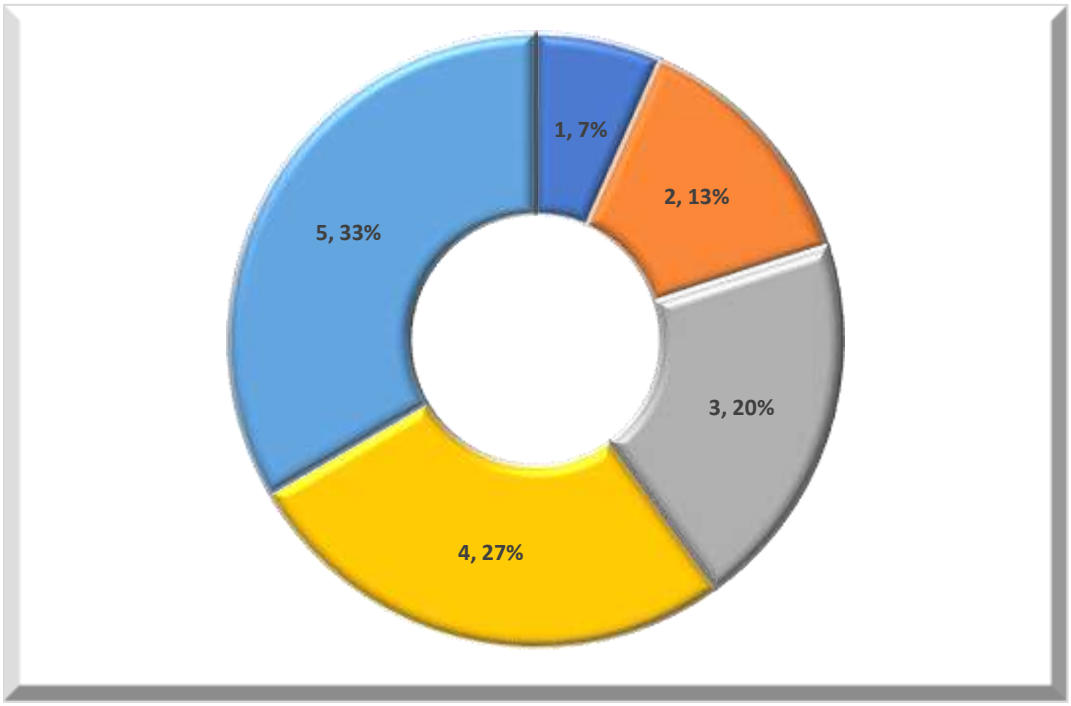
Table 5. Distribution of the extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems . 1 is very low, 5 is very high

The extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems . 1 is very low, 5 is very high		
	N	**%**
1	27	9
2	33	11

3		21	7
4		45	15
5		174	58
	%	80.4	
Chi-square	**X^2**	276	
	P-value	<0.001*	

Table 5 Distribution of the extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems 1 is very low, 5 is very high regarding distribution The extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems . 1 is very low, 5 is very high the most of participant in very high were (58.0%) followed by high were (15.0%) but average were (11.0%) while low were (9.0%) but very low were (7.0%) while a significant relation were (P-value =0.001) and X^2 (276.0) while % of agreement were (80.4)

Figure (1) Distribution of the extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems . 1 is very low, 5 is very high



Discussion

The aim of this study was to assessment of the Health Information Systems on Improving Primary Health Care, role of Family Medicine physicians and Nursing in Health Management in Saudi Arabia 2024 .

This study has addressed the Health Information Systems on Improving Primary Health Care Delivery and the Role of Family medicine physicians and Nurses; first, it could not provide underlying causes of the improving primary health care. Secondly, the evaluation system is more single-dimension and does not include other manners to ensure the quality of delivered services such as contact with customer or patient. Also, in another qualitative study from Iran, family health providers revealed that

supervision and management system is suboptimal and does not give support and guidance for improving quality at tasks contributed to PHC.[26]

In our study reported the socio demographic characteristics, table 1 shows that the majority of participants age 40-49 years were (37.0%) and 30-39 years of age were (23.0%), while < 30 years and above 50 were respectively (20.0 %), regarding gender the majority of participant male were (58.0%) but female were (42.0%), regarding the job classification the majority of participant health Family Medicine were (43.0%), but physician were (20.0%) while technician (nursing) were (18.0%) followed by pharmacist were (20.0%), regarding the level of education is the majority of participant diploma were (42.0%) but bachelor's degree or equivalent were (32.0%) (See table 1)

The other important finding in this study was the shortage of qualified family physicians and nursing. The Health Management in Saudi Arabia has established Improving Primary Health Care Delivery of Medical Services and Revenue Development arrangement changes and measures that can urge the private division to work intimately with the administration. Health Information Systems of Medical Services and Revenue Development changes require businesses (organizations) to get private medical Services and Revenue Development for their representatives. The usage of the approach has confronted a heap of difficulties in light of the fact that there are no compelling controls. [27]

In our study distribution of health care workers (Family Medicine And nursing) knowledge on Health Information Systems on Improving Primary Health Care Delivery, shows regarding you familiar with the following terms: Improving Primary Health Care Delivery the majority of participants answer No were (32.0%) while I'm not sure were (48.0%), while answer Yes were (20.0%), regarding Are you familiar with Health Information Systems the majority of participants answer No were (32.0%) while I'm not sure were (43.0%), while answer Yes were (25.0%), regarding do you assess your satisfaction in general about Health Information Systems at Saudi Arabia the majority of participant very Satisfied were (40.0%) but Satisfied were (25.0%) while unsatisfied were (21.0%) while very dissatisfied were (14.0%) (See table 2)

As Family medicine physicians and Nurses may experience some emergency cases at their workplace and as usually primary health care centers are not well prepared to face such medical emergencies, previous studies suggested that PHC centers should have a written emergency protocol that can help them to effectively deal with emergency cases.[28,14]

This narrative synthesis integrated findings from recent studies on Saudi Health Information Systems services, in Improving Primary Health Care and role of Family physicians and Nurses infrastructure, [29]

Family Medicine perceptions about Health Information Systems ways to Improving Primary Health Car show regarding the Primary Health Care Centre ready to provide its Health Information Systems services while a significant relation were (P-value =0.048) and X^2 (7.920) while % of agreement were (61.0) the majority of participant Satisfied were (29.0%) followed by the very dissatisfied were (29.0%) while very Satisfied were (22.0%) but unsatisfied were (20.0%), regarding the application of the Health Information Systems project will work effectively in the Medical Centres while a significant relation were (P-value =0.000) and X^2 (89.520) while % of agreement were (77.75) the majority of participant very Satisfied were (44.0%) followed by the very dissatisfied were (7.0%) while Satisfied were (30.0%) but unsatisfied were (19.0%) (See table 3)

Workforce, policies, and reforms, the evidence depicts a system with strengths in some areas like immunization but substantial gaps in critical domains like chronic disease management, preventive care, health information systems, care coordination, and equity. Patients face organizational, geographic, and socioeconomic barriers that impede PHC access and force overreliance on emergency services. Workforce limitations pose a major challenge.[30] The extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems 1 is very low, 5 is very high regarding distribution The extent of the expected improvement in the Primary Health Care Delivery when implementing Health Information Systems. 1 is very low, 5 is very high the most of participant in very high were (58.0%) followed by high were (15.0%) but average were (11.0%) while low were (9.0%) but very low were (7.0%) while a significant relation were (P-value =0.001) and X^2 (276.0) while % of agreement were (80.4) (See table 5)

Conclusions

While the evidence highlights numerous advantages, gaps remain in understanding the long-term impacts of HIS on-patient outcomes, in Primary Health Care cost-effectiveness, and provider workflows. Future research should focus on these areas, with particular attention to the specific experiences of family medicine and nursing and professionals in diverse health care systems. also identifying barriers that must be addressed to optimize outcomes. This review emphasizes the need for targeted interventions, continuous training, and future research to evaluate the long-term effects of HIS on health outcomes, cost-effectiveness, and provider workflows. By addressing these gaps, HIS can play a critical role in advancing global health care delivery. In addition, training, performance evaluation, and organizational development efforts can be used to raise staff clinical practice performance , that an organization should foster a culture of learning that leads the staff members to exchange expertise, build teamwork, learn new clinical information, and develop skills that will develop creativity in the medical practice, which eventually can impact positively on employees' competencies , which attempts to build the required infrastructure and establish a climate that enables the public, private, and non-profit sectors to meet Vision 2030 needs.

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