



CODEN [USA]: IAJPB

ISSN : 2349-7750

INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.7463820>

Available online at: <http://www.iajps.com>

Research Article

UNIFYING THE MEDICAL PROFILES OF HOSPITAL SYSTEM IN SAUDI ARABIA

Running Title: Unifying medical profiles of hospital system

Reham Hussain Algahtani¹, Syed Mohammed Basheeruddin Asdaq², Huda Mohammad Ghazwani¹, Basilah Mofareh Alsuwailem¹

¹ Intern, Almaarefa university, Riyadh, Saudi Arabia.

² Associate professor, College of Pharmacy, Almaarefa University, Riyadh, Saudi Arabia.

Article Received: November 2022 **Accepted:** November 2022 **Published:** December 2022

Abstract:

Background: Several systems with improved decision-making, communication, and data management were deployed across various healthcare institutions in the previous time for the improvement in communication technologies, the field of interoperability, and health data sharing. Thus, this study aimed to reduce the chances of medical errors and improve the quality of health care in Saudi Arabia.

Methods: This cross-sectional survey was carried out among Saudi Arabia's general population through simple random sampling technique. Participants' information was gathered using a Google Form for an online self-administered questionnaire.

Results: In this study a total of 1,345 participants were involved. The majority of study population thought that seeking treatment for the same illness in more than one hospital was time and money consuming (83.3%). In addition, current results found that the highest proportion of participants stated that they felt bothered when they filled the data in order to create a new medical file. Most of them preferred to seek medical treatment for illness at the same hospital or clinic (61%). Regarding unifying hospitals system in Saudi Arabia, it was found that the highest percentage of participants thought that there should be a unified system in Saudi Arabia linked among hospitals to unify the medical profile. Furthermore, it was found that most of the participants sometimes used internet to search about specific disease or side effects (44.5%).

Conclusion: This study assessed participants' perspective on unifying the medical profiles of the Saudi Hospital System and determined that the majority of participants advocated unifying the medical profiles.

Keywords: unified, hospital systems, information, Saudi Arabia, medical profiles

Corresponding author:

Reham Hussain Algahtani,

Intern, Almaarefa university, Riyadh, Saudi Arabia.

Email: Rehamhussain@hotmail.com

QR code



Please cite this article in press Reham Hussain Algahtani *et al*, *Unifying The Medical Profiles Of Hospital System In Saudi Arabia.*, *Indo Am. J. P. Sci*, 2022; 09(12).

INTRODUCTION:

Saudi Arabia does not have a unified hospital system to connect hospitals as one unit, which might have an adverse effect on patient care, including recurrent unneeded laboratory tests, and is thus costly on individuals. Furthermore, when patients visit any hospital for the first time, they must start from the beginning according to their medical records, which took time [1]. Medication errors have a large monetary value and are very costly to manage; also, patients might lose trust in health care, which might lead to self-management, and could have negative consequences [2]. The manager of the British health care administration, Howard Lyons saw the main challenges caused by the establishment of a strong network of health care. It was noted that, approximately 95 pathological situations in hospitals seek for treatment, and general practitioner could assess them which would reduce the effort and pressure on hospitals.

The hospital database system should be unified to make the availability of the medical profiles of the patients to avoid money and time consumption and also missing of data. Using psychological theory, medication errors can be characterized as knowledge-based errors, rule-based errors, action-based slips, and memory-based lapses [3].

Database management system (DBMS) is designed to allow the definition, creation, querying, update and administration of databases. A common challenge is communicating the information from one database to another database (especially, if they are using different database management systems). Further, security is another challenge, as many applications keep unauthorized individuals accessing the information [4].

On the other hand, Electronic Medical Records (EMRs) are the digital version of the paper charts in the clinician's office. An EMR contains the medical and treatment history of the patients in one practice. EMRs have advantages over paper records. For example; easily identify the patients for preventive screenings or check-ups, check patient parameters such as blood pressure readings or vaccinations, and monitor and improve overall quality of care [5].

Moreover, Electronic health records (EHRs) focuses on the total health of the patient going beyond standard clinical data collected in the provider's office and inclusive of a broader view on a patient's care. EHRs are designed to reach out beyond the originally collects and compiles the information of the health organization. The National Alliance for

Health Information Technology stated that EHR data could be created, managed, and consulted by authorized clinicians and staff across more than one healthcare organization. The information moves with the patient to the hospital, specialist, nursing home, the next state or even across the country. When comparing the differences between record types, the fully functional EHRs, all members of the team have ready access to the latest information allowing for more coordinated, patient-centered care information.

With EHRs; the information gathered by the primary care provider about the patient's life-threatening allergy and tells the emergency department clinician, so that care could be adjusted appropriately, even if the patient is unconscious. A patient could log on to his own record and see the trend of the lab results, which could help and motivate him to take his medications and keep up with the lifestyle changes to improve his quality of life. The lab results run last week are already in the record, so the specialist knew what she needs without duplicating the tests. Further, the clinician notes could help inform the discharge instructions and follow-up care for the patient and enable him to move from one care setting to another more smoothly [5].

Telemedicine is another field emerging these days to improve a patient's clinical health status, and medical information could be transmitted electronically from one place to another. It encompasses an ever-expanding range of applications and services that make use of two-way video, email, smart phones, wireless tools, and other types of telecommunication technologies [6].

Only the Ministry of National Guard in Saudi Arabia has a coordinated system in their hospitals. As a result, by unifying the medical profile, the medical professionals would be able to shape their roles and responsibilities in providing patient-centered care. Thereby, this study aimed to reduce the chances of medical errors and improve the quality of health care in Saudi Arabia by comparing between participant's preference, when they sought medical care. To assess the level of health in current status and reduce the load on hospitals and individuals. To enhance doctors' understanding of the patient's status. And to make a web-site and application that provide summary of patient file and could be readable in all hospitals with different systems and with security for the patient.

MATERIALS AND METHODS:

A cross sectional study was carried out in different regions of Saudi Arabia including Riyadh, Dammam

and Jeddah, where participants from general population were recruited from Grnada Health Center, Naqeel Health Center and Alazezyah Health Center, respectively.

Any Adult, Saudi Arabia resident who agreed to participate in the study, any nationality, and who could read and has a social media account was included in this study. Whereas, non- Saudi Arabia residents, individuals with no social media account, and who refused to share in the study were excluded. The sample size was calculated using EPI info program. Based on 95% confidence interval, 5% margin of error and total population in Saudi Arabia. The estimated sample size was 1,245 and was adjusted to 1,345 to compensate for 10% non-response rate.

The study was conducted using an online self-administered questionnaire via Google Form. The generated link was randomly shared on social media. Also, the questionnaire was also manually distributed in Riyadh, Dammam and Jeddah, in Grnada Health Center, Naqeel Health Center and Alazezyah Health Center, the questionnaire was in both Arabic and English A simple random sampling technique was employed to collect the data from the participants. Data were coded, entered, and analyzed using the Statistical Package for Social Science (SPSS) version 23. Categorical variables were represented using numbers and percentage, whereas numerical variables were represented using mean \pm SD.

According to the type of the variable, correlations were also performed using a T test or Chi-square. P-value was considered significant at ≤ 0.05 .

RESULTS:

This study included a total of 1,345 participants. The majority of them (61%) wanted to seek medical treatment for illness in the same hospital or clinic. The majority of the survey group (83.3%) said that obtaining treatment for the same condition at many hospitals was time and money demanding. Furthermore, the current findings revealed that the majority of participants felt bothered when filling out the data to generate a new medical file. Additionally, majority of participants were given the wrong medication or a lab result from someone else (80.4%). More than half of the participants (51.1%) have not delivered laboratory tests to more than one private hospital in response to the same request. Furthermore, the data revealed that the majority of participants preferred to visit an approved site under the supervision of doctors and pharmacists before visiting the hospital. Concerning the unifying hospitals system in Saudi Arabia, it was discovered that the majority of participants believed that there should be a unified system in Saudi Arabia that is the link between hospitals to unify the medical profile, and the majority of them perceived the unifying hospitals system in Saudi Arabia as a ministry of health responsibility that would improve the health care system (Table 1).

Table 1: Participant's preference when they seeking for medical care and their opinions about unifying hospitals system (n=1,345)

Question	Yes	No	
1. In case of illness, are you always seeking for treatment the same hospital or clinic?	821 (61%)	524 (39%)	
3. Do you think the seeking of treatment for the same illness in more than one hospital is time and money consuming?	1120 (83.3%)	225 (16.7%)	
	Yes	No	Not always but sometimes
4. Do you feel bothering when you fill the data in order to create a new medical file?	567 (42.2%)	354 (26.3%)	424 (31.5%)
	Yes	No	
5. Have ever disbanded a medication by mistake or was given a lab result of someone else?	1081 (80.4%)	264 (19.6%)	
6. Have you ever get a laboratory tests in more than one private hospital of the same request?	658 (48.9%)	687 (51.1%)	

	Yes, It will be helpful	No need	
8. Do you prefer to have an approved site under the supervision of doctors and pharmacists to ask them before visit the hospital?	1151 (85.6%)	194 (14.4%)	
	Yes	No	I do not know
9. Do you think there should be an unified system in Saudi Arabia link between hospitals to unify the medical profile?	1193 (88.7%)	59 (4.4%)	93 (6.9%)
10. Do you think unifying hospitals system in Saudi Arabia one of the Ministry of Health responsibility?	1115 (82.9%)	71 (5.3%)	159 (11.8%)
11. Do you think unifying hospitals system in Saudi Arabia will improve the health care?	1131 (84.1%)	69 (5.1%)	145 (10.8%)

The current study results showed that almost half of the participants brought their medication or told the physician about them when they visited more than one hospital or clinic in order to treat the same illness (49.1%) (Figure 1).

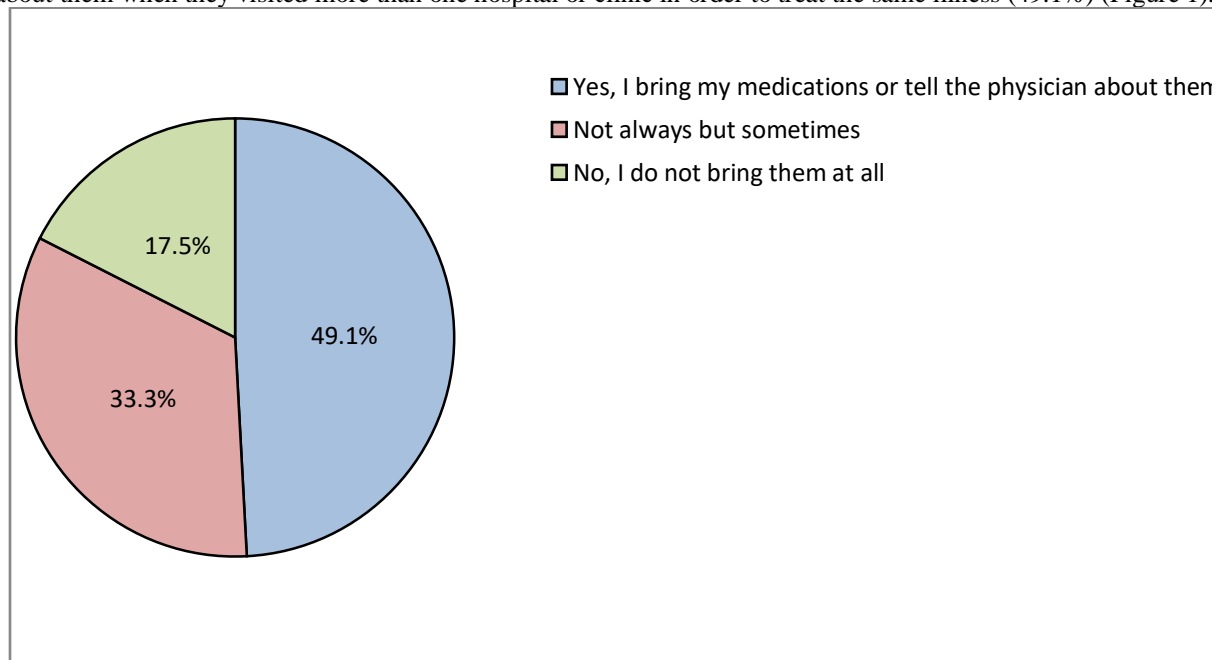


Figure 1: When you visit more than one hospital or clinic in order to treat the same illness, do you tell the physician about your medications or bring them? Or you start the treatment from beginning?

In regards with using internet for seeking of healthcare, it was found that most of the participants sometimes used internet to search about specific disease or side effects (44.5%) (Figure 2).

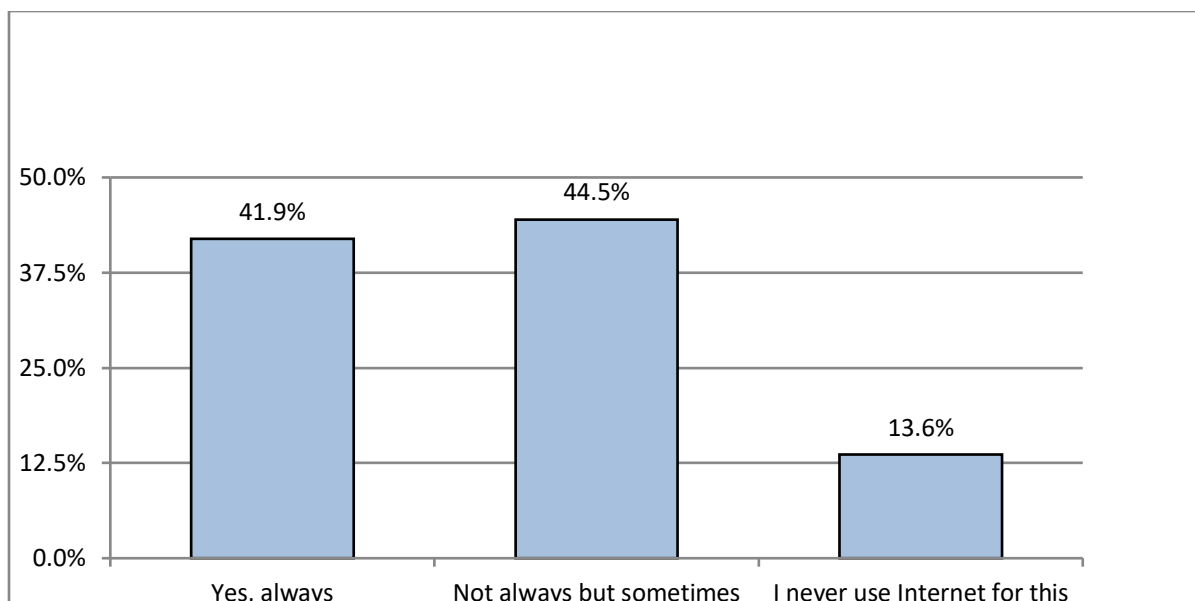


Figure 2: Are you using the internet to search about specific disease or side effects?

DISCUSSION:

The current study aimed to reduce the chances of medical errors and improve the quality of health care in Saudi Arabia. In the Kingdom, both the public and private sectors are responsible for providing healthcare services, with the former taking the lead. The Ministry of Health, led by the Minister of Health, is in charge of managing the country's health system. The Ministry of Health has a decentralized, well-defined organizational and administrative structure. Its responsibilities include strategic planning, development of specific health policies, to oversight of all health-care delivery programs, and the monitoring and control of all other health-related activities [7].

The current study results found that most of the participants preferred to seek medical treatment for illness at the same hospital or clinic (61%). This was inconsistent with another that was conducted in Ghana and showed that most of the participants reported seeking health care from multiple sources [8].

Electronic health records (EHRs) were implemented with the hope of improving care quality, saving time, facilitating collaboration and data sharing, and preventing clinical errors [9]. In this study, the majority of participants believed that there should be a unified system in Saudi Arabia linking hospitals to unify the medical profile, and the majority of them saw unifying hospitals systems in Saudi Arabia as a ministry of health responsibility that would improve the health care system. Another study in the UAE

supported the current findings, indicating that UAE is well prepared for a national unified medical record for a variety of reasons, including government sponsorship, the availability of regulations and standards, compliance with interoperability standards, the availability of hospital level EMRs that meet international standards, infrastructure maturity, smart devices, and smart services penetration [10].

Regarding the use of internet to seek healthcare, it was observed that the majority of participants (44.5%) occasionally used the internet to search for specific diseases or side effects, whereas 41.9% constantly utilized the internet. This was greater than the findings of another study, which found that online services enabled seeking expert assistance for an average of 35% of consumers [11]. The Internet has emerged as a primary source of health information [12, 13].

Strengths of the current study were the large sample size and wide geographic distribution of the participants, which allow the generalizability of the current results. However, recall bias and observational nature of the current study were the limitations.

CONCLUSION:

This study assessed participants' perspectives on unifying the medical profiles of the Saudi Hospital System and determined that the majority of participants supported unifying the medical profiles. With the implementation of a unified hospital system, the quality of care would improve, and patients'

waiting time in the hospital was predicted to decrease in general.

REFERENCES:

1. Bates DW. Preventing medication errors: a summary. *Am J Health Syst Pharm*, 2007;64:S3-S9.<https://doi.org/10.2146/ajhp070190>
2. Radley DC, Wasserman MR, Olsho LE, Shoemaker SJ, Spranca MD, Bradshaw B. Reduction in medication errors in hospitals due to adoption of computerized provider order entry systems. *J Am Med Inform Assoc*, 2013;20:470-476. <https://doi.org/10.1136/amiajnl-2012-001241>
3. Aronson JK. Medication errors: definitions and classification. *Br J Clin Pharmacol*, 2009;67(6):599-604.<https://doi.org/10.1111/j.1365-2125.2009.03415.x>
4. Chopra R. Database Management System (DBMS) A Practical Approach. S. Chand Publishing; 2010.
5. Belletti D, Zacker C, Mullins CD. Perspectives on electronic medical records adoption: electronic medical records (EMR) in outcomes research. *Patient Relat Outcome Meas*, 2010;1:29-37.<https://doi.org/10.2147/PROM.S8896>
6. Waller M, Stotler C. Telemedicine: a primer. *Curr allergy asthma rep*, 2018;18(10):1-9.<https://doi.org/10.1007/s11882-018-0808-4>
7. Al Yousuf M, Akerele TM, Al Mazrou YY. Organization of the Saudi health system. *EMHJ*, 2002;8(4-5):645-653.<https://doi.org/10.26719/2002.8.4-5.645>
8. Asampong E, Dwuma-Badu K, Stephens J, Srigboh R, Neitzel R, Basu N, et al. Health seeking behaviours among electronic waste workers in Ghana. *BMC Public Health*, 2015;15(1):1-9.<https://doi.org/10.1186/s12889-015-2376-z>
9. Bates DW, Gawande AA. Improving safety with information technology. *N Eng J Med*, 2003;348(25):2526-34.<https://doi.org/10.1056/NEJMsa020847>
10. Harbi A. Health care expert's readiness to implement national unified medical records (NUMR) system in the United Arab Emirates; a qualitative study. *Informatica*, 2021;45(5).<https://doi.org/10.31449/inf.v45i5.3358>
11. Kauer SD, Mangan C, Sancil L. Do online mental health services improve help-seeking for young people? A systematic review. *J Med Internet Research*, 2014;16(3):e3103.<https://doi.org/10.2196/jmir.3103>
12. Eysenbach G, Powell J, Kuss O, Sa ER. Empirical studies assessing the quality of health information for consumers on the world wide web: a systematic review. *JAMA*, 2002;287(20):2691-2700.<https://doi.org/10.1001/jama.287.20.2691>
13. Wood FB, Benson D, LaCroix EM, Siegel ER, Fariss S. Use of Internet audience measurement data to gauge market share for online health information services. *J Med Internet Res*, 2005;7(3):e31.<https://doi.org/10.2196/jmir.7.3.e31>