National Survey of Drug Information Centers' practice: Evidence-Based Medicine-Therapeutics Guidelines (EBM-TG) System at Ministry of Health hospitals in Saudi Arabia

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Abstract

Objective: To explore the practice at the National Survey of Drug Information Centers in Saudi Arabia with an emphasis on Evidence-Based Medicine-Therapeutics Guidelines (EBM-TGs) System at Ministry of Health hospitals. **Methods:** This is a 4-month cross-sectional national survey of the Drug Information Services at MOH. The survey contains 10 domains with a total of 181 questions designed by the authors. The questions were derived from the International Pharmaceutical Federation, American Society of Health-System Pharmacists best practice guidelines. The survey was distributed to 40 hospital pharmacies that run drug information services. In this study, the domain Medication-Use Evaluation System was explored and analyzed. It consisted of seven questions about the written policies and procedures and application methods for EBM-TG in the drug information centers. The data were analyzed through the Survey Monkey system. **Results:** The response rate was found to be around 88.88%. According to the results, written policies and procedures for EBM-TGs existed only in 18 (45%) hospitals and approximately 25–100% of the elements implementations. EBM-TG monitoring system is available live in only 17 (42.5%) hospitals applying approximately 25–100% of the elements. According to our results, in only 18 (45%) hospitals, the patients receive appropriate care due to EBM-TGs. There is evidence that the EBM-TG Indicators existed in only 19 (45.5%) hospitals applying approximately 25–100% of the elements. Process for improving EBM-TG system exists in 20 (50%) hospitals applying approximately 25–100% of the elements. **Conclusion:** There a poor application of EBM-TGs in the practice of drug information centers. Implementation of EBM-TG system improves patient outcomes which avoids unnecessary additional costs in the healthcare system. **Key words:** Drug Information Centers, Evidence-Based Medicine, Therapeutics Guidelines, Saudi Arabia.

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INTRODUCTION

The primary activity of the drug information center (DICs) is to answer drug information queries from the healthcare professionals and the public.¹ During answering the question, the pharmacist needs to revise

tertiary and then secondary references. If they do not find the answer, they switch to primary references. At each step, the pharmacist must read the reference carefully with critical appraisal of the topic and evaluate the literature. The new concept is more than the so-called evidence-based medicine. It can be used at each step of search to critically evaluate the topic before

delivering the answer of the question. Furthermore, it can be used to set up therapeutic guidelines or management protocols for various diseases. The EBM concept implemented in the Kingdom of Saudi Arabia (KSA) through medicines and physician while in pharmacy field not existed.²⁻⁶ Several studies on DICs have been performed locally and they did not study the utilization of evidence-based reference or tool while answering queries or while designing guidelines.^{7,8} Other studies performed on a group of DICs have surveyed the network of DICs but have not mentioned anything related to the evidence-based medicine.⁹⁻¹² The authors are unfamiliar with any investigations discussed with respect to the utilization of evidence-based medicine with DICs in Saudi Arabia or Gulf and Middle East countries. Moreover, it hard to find the studies worldwide in practice. Therefore, the goal of this survey is to explore EBM-TG system used in the drug information practice in Saudi Arabia.

METHODS

This is a 4-month cross-sectional national survey of Drug Information Services at Ministry of Health (MOH). It contains 10 domains: Leadership and Practice Management, Medication Addition and Deletion System, Hospital Formulary System, Medication Safety System, Professional and Public Education, The Evidence-Based Medicine-Therapeutics Guidelines, Medication-Use Evaluation (MUE), Pharmacoeconomics System, Investigational Drug Services (IDS) and Professional Publications Services (PPPS, and Ethical and Legal Issue. It consisted of a total of 181 questions designed by the authors. They are derived from the International Pharmaceutical Federation (FIP, American Society of Health-System Pharmacists (ASHP) best practice guidelines, the international standard of Joint Commission of Hospital Accreditation. In addition to the local standards of Saudi Center of Health are Accreditation and Minimum Standards of DICs in Saudi Arabia.^{1,13-16} This survey was distributed to 40 hospital pharmacies that run drug information services. The basic information regarding the DICs services offered by the hospitals from the extensive records of General Administration of pharmaceutical care. This study was conducted in the year 2015. In this study, we explored and analyzed the EBM-TGs System. Table 2 shows the seven questions as per this domain. The data were analyzed by the Survey Monkey system.

RESULTS

The survey was distributed to 45 MOH hospitals. Of them 40 (88.88%) hospitals responded to the questions. Among the total responders, 35% were large, 37.5% were medium size, and 17.5% were small size hospitals as well as 10% were National and Regional Drug Information Centers. Approximately 15 hospitals were accredited by CIBAH and 8 hospitals were only accredited by Joint commission, whereas none of them were accredited by ASHP or Canada. Most responders were Saudi (38 (95%)) nationals. There were 28 (70%) male and 12 (30%) female responders (Table 1). Of all the responders, written policies and procedures for EBM-TGs existed only in 18 (45%) hospitals applying approximately 25–100% of the elements. EBM-TG monitoring system is available live in only 17 (42.5%) hospitals applying approximately 25–100% of the elements. Only 17 (42.5%) hospitals performed intensive analysis of all EBM-TGs. Notification of treating physicians of EBM-TGs existed in only 17 (42.5%) hospitals applying approximately 25–100% of the elements. Our results show that the patient receives appropriate care for EBM-TG in only 18 (45%) hospitals. Furthermore, EBM-TG indicators existed in only 19 (45.5%) hospitals. Process for improving EBM-TG system existed in 20 (50%) hospitals (Table 2).

DISCUSSION

The MOH started the strategic plan of healthcare system in 2010 and has shown several significant achievements.¹⁷ One of best achievement is the establishment of the evidence-based healthcare center. This project was founded with the collaboration of McMaster University, Canada. The center collaborates with the medical administrator and the assistant medical administrator at the MOH. In addition, the center collaborates with non-MOH government organizations including universities, national guard institutions, military health organizations, and scientific societies. The primary goal of the center is to establish and distribute concepts of evidence-based medicines and national guidelines and protocol for diagnosis, management, and prevention of acute and chronic diseases among all healthcare professionals.^{18,19} The center also collaborates with Gulf's evidence-based medical center, the first center founded in Gulf area which is located at King Abdul-Aziz medical city. The MOH and Gulf center provides educational courses on evidence-based medicine. Till date, the MOH has released and published almost 20 diagnostics, management, and prevention of disease guidelines.¹⁹

Table 1: Size, ownership, and accreditation of respondents.

			Nationality		Sex		Accreditation			
Hospital size (Number of staffed beds)	Number of hospitals	% ages	Saudi	Non- Saudi	Male	Female	CIBAHI	JCI	Canada	ASHP
Small										
<50	1	2.5 %	1 (2.5%)	0 (0%)	1 (2.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
50–99	6	15 %	6 (15%)	0 (0%)	6 (15%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Medium										
100–199	7	17.5 %	7 (17.5 %)	0 (0%)	6 (15%)	1 (2.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
200–299	8	20 %	7 (17.5 %)	1 (2.5%)	5 (12.5%)	3 (7.5%)	5 (25%)	2 (10%)	0 (0%)	0 (0%)
Large										
300–399	7	17.5 %	7 (17.5 %)	0 (0%)	4 (10%)	3 (7.5%)	4 (20%)	2 (10%)	0 (0%)	0 (0%)
400–599	7	17.5 %	6 (15%)	1 (2.5%)	5 (12.5%)	2 (5%)	6 (30%)	4 (20%)	0 (0%)	0 (0%)
More than or equal 600	0	0%	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Very Large										
Medical Cities	0	0%	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
National and Regional Drug Information Centers	4	10 %	4 (10%)	0 (0%)	1 (2.5%)	3 (7.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Missing No-Response	0	0 %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	20 (50%)	20 (50%)	20 (50%)	20 (50%)
Total Respondents	40	100%	38 (95%)	2 (5%)	28 (70%)	12 (30%)	20 (50%)	20 (50%)	20 (50%)	20 (50%)
Ownership										
MOH-Hospitals	40	100%								
Non-MOH Hospitals	0	0%								
Privates	0	0%								

Table 2: Drug information centers (DICs) had a process for Evidence-Based Medicine-Therapeutics Guidelines (EBM-TGs).

Answer Options	Scores*					Rating Average	Percent	Response Count
	1	2	3	4	5			
Written policy and procedure for EBM-TG.	22	2	6	3	7	2.28	45.60	40
EBM-TG Monitoring system is available.	23	4	6	3	4	2.03	40.60	40
Intensive analysis performed for all EBM-TG.	23	2	7	4	4	2.10	42.00	40
Notification of treating Physician of EBM-TG.	23	2	8	3	4	2.08	41.60	40
There is evidence that the patient receives appropriate care for EBM-TG.	21	2	11	3	3	2.13	42.60	40
There is evidence that the EBM-TG Indicators.	21	4	8	4	3	2.10	42.00	40
Process for improving EBM-TG system.	20	6	6	5	3	2.13	42.60	40
answered question								40
skipped question								0
*1: DIC is NOT applying the elements, 2: DIC is applying 25% of the elements, 3: DIC is applying 50% of the elements, 4: DIC is applying 75% of the elements, 5: DIC is applying 100% of the elements								

The General Administration of pharmaceutical care collaborated with the center and participated with several clinical pharmacists during the establishment of the guidelines for evidence-based medicines.²⁰⁻²¹ The pharmacy administration established evidence-based pharmacy based on the guidelines provided by the MOH center and on international literature as part of the DICs activities. The authors surveyed to explore EBM-TGs via DICs. Our results showed poor application and implementation of EBM-TGs among the investigated hospitals' DICs. Most of the literature did not mention anything in detail about the evidence-based medicine and may be one respondent stated the references of evidence-based medicine only.¹⁰ It is hard to compare our results with those of other studies. The drug information pharmacist needs education and training for evidence-based medicine and internal policy and policy for implementing the system at MOH hospital pharmacies in Saudi Arabia.

CONCLUSION

EBM-TGs are a new concept in the pharmacy field of DICs practice. Systemic implementation of EBM-TGs with education and training, close monitoring, and repeating the survey of the application of such new system improves DICs services and may prevent economic burden in the healthcare system at MOH hospitals in KSA.

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CONFLICT OF INTEREST

None.

ABBREVIATIONS

KSA, Kingdom of Saudi Arabia; MOH, Ministry of Health; DIC, Drug Information Centers; IDS, Investigational Drug Services; PPPS, Professional Publications Services; EBM-TG, Evidence-Based Medicine-Therapeutics Guidelines; MUE, Medication-Use Evaluation; FIP, International Pharmaceutical Federation; ASHP, American Society of Health-System Pharmacists.

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REFERENCES

- Ghaibi S, Ipema H GM. ASHP Guideline on The Pharmacist's Role in Providing Drug Information. *Am J Heal Pharm*. 2015;72(7):573-7.
- Al- Ansary LA, Khoja TA. The place of evidence-based medicine among primary health care physicians in Riyadh region, Saudi Arabia. *Fam Pract*. 2002; 19(5):537-42.
- Al-Baghlie N, Al-Almaie SM. Physician attitudes towards evidence-based medicine in eastern Saudi Arabia. *Ann Saudi Med*. 2004;24(6):425-8.
- Al-Almaie SM, Al-Baghli N. Barriers facing physicians practicing evidence-based medicine in Saudi Arabia. *J Contin Educ Heal Prof*. 2004;24(3):163-70.
- Al-Omari FK, Al-Asmary SM. Attitude, awareness and practice of evidence based medicine among consultant physicians in Western region of Saudi Arabia. *Saudi Med J*. 2006;27(12):1887-93.
- Al-Musa HM. Knowledge, perceptions, attitude and educational needs of physicians to evidence based medicine in South-Western Saudi Arabia. *Saudi Med J*. 2010;31(3):308-12.
- Alomi YA, Almudaiheem HY, Alarnous T, Alshurei S, Alsharafa A, Alzahrani T, *et al.* Cost-efficiency of of national drug information center through ministry of health hotline calling services (937) in Saudi Arabia: Application of American model. *Value Health*. 2015;18(7):A735.
- YAA, Mudaiheem HA. National Drug Information Center Services through Ministry of Health Hotline Calling Center (937) in Saudi Arabia. *Adv Pharmacoepidemiol Drug Saf*. 2016;5(1).
- Gallo GR, Wertheimer AI. An International Survey of Drug Information Centers. *Drug Information J*. 1985;19(1):57-61.
- Rosenberg JM, *et al.* Current status of pharmacist-operated drug information centers in the United States. *Am J Heal Pharm*. 2004;61(19):2023-32.
- Rosenberg JM, Schilit S, Nathan JP, Zerilli T, McGuire H. Update on the status of 89 drug information centers in the United States. *Am J Heal Pharm*. 2009;66(19):1718-22.
- Alamri S, Ali Al Jaizani R, Naqvi A, Ghamdi M. Assessment of Drug Information Service in Public and Private Sector Tertiary Care Hospitals in the Eastern Province of Saudi Arabia. *Pharmacy*. 2017;5(3):37.
- Vernon G, Dvorkin L, Vidotti CCF, Woods D. Requirements for Drug Information Centres. *FIP Pharmacy Information Section*. 2005.
- Medication Management (MM). In: National Hospital Standards [Internet]. 2nd Edition. Saudi Central Board for Accreditation of Healthcare Institutions. 2015;194-211. Available from: <http://www.cbahi.gov.sa>
- The Joint Commission. Comprehensive Accreditation Manuals. Joint Commission Resources. Available from: <http://www.jcrrinc.com/store/publications/manuals/>
- Ministry of Health GPCD. Minimum standard of Drug Information Center in KSA [Internet]. Ministry of Health, Saudi Arabia. [Internet]. 2014. [cited 2017 Sep 24]. Available from: <http://www.moh.gov.sa/depts/Pharmacy/Documents/MINIMUM STANDARD OF DRUG INFORMATION CENTERS AT KSA.pdf>
- Ministry of Health. A Cheivements 2013 [Internet]. 1st Edition. Riyadh, Saudi Arabia: Ministry of Health, Saudi Arabia. 2011;132-5. Available from: http://sgsminksb.by/_media/Global/Documents/Technical Documents/Technical Datasheets/SGS-PCA-SA-Datasheet SFDA-A4-EN-11-V2.pdf
- Ministry of Health. The Saudi center for evidence based healthcare (EBHC) [Internet]. 2014. [cited 2017 Sep 24]. Available from: <http://www.moh.gov.sa/endepts/Proofs/Pages/home.aspx>
- Ministry of Health. Clinical Practice Guidelines.The Saudi Center for Evidence Based Healthcare (EBHC) - Clinical Practice Guidelines [Internet]. 2014. [cited 2017 Sep 24]. Available from: <http://www.moh.gov.sa/endepts/Proofs/Pages/Guidelines.aspx>
- Al-Hameed FM, Al-Dorzi HM, Abdelaal MA, Alaklabi A, Bakhsh E, Alomi

YA, et al. The Saudi clinical practice guideline for the prophylaxis of venous thromboembolism in medical and critically ill patients. Saudi Med J. 2016;37(11).

21. Al-Hameed FM, Al-Dorzi HM, Abdelaal MA, Alaklabi A, Bakhsh E, Alomi YA, *et al.* The Saudi clinical practice guideline for the prophylaxis of venous thromboembolism in long-distance travelers. Saudi Med J. 2017;38(1).

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