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THE SAUDI MEDICAL RESIDENT'S ATTITUDE, KNOWLEDGE AND BARRIERS TOWARDS THE USE CLINICAL PRACTICE GUIDELINES

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ABSTRACT

Objective: To describe the medical resident's attitude, knowledge and barriers towards the use CPGS at KFSH&RC. ***Methods***: A self-administered questionnaire was distributed to medical residents. The questionnaire hasfour parts: demographic characteristics, practitioners' knowledge, attitudes and barriers to CPGS. ***Results*:** The total number is 71 residents with a response rate of 100%. The mean age is 26.83 ± 2.1.54.9% of participants are used CPGS. In a scale of 5 the most barriers are lack of motivation to change 2.3 ± 1.1. They fail to follow up guidelines due to poor patients' compliance to recommendations 2.5 ± 0.7, they believe that guidelines are difficult to apply in clinical practice 2.6 ± 0.8, lack of formal implementation strategies at medical residents' institution 2.7 ± 0.9. Lack of familiarity with the benefit associated with interventions described in guideline 2.8 ± 1.01, lack of access to guideline 2.7 ± 1.1, lack of agreement with guideline content 2.7 ± 0.9. believing that information should be summarized in ways that are convenient for physicians to use 4 ± 1.1, the confusion about different guidelines from different societies on the same topic 3.9 ± 0.8. The most positive attitude is the agreement on the need of having a local Saudi task force to design guidelines 4.26 ± 0.98, believing in an evidence based medicine in clinical practice 4.2 ± 0.8. Residents don't see any guidelines applied in their health care unit 2.2 ± 2.1, the disapproving attitudes towards the guidelines by most of their colleagues 2.4 ± 0.9, endorsement of guidelines by consultants more relevant for enhancing guideline use 3.5 ±0.8. ***Conclusion***: There is a need for strategies to overcome the barriers towards the use of CPGs like curriculum in medical collages and residency programs. To encourage the role of consultants for enhancing guidelines use in clinical practice.

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INTRODUCTION

Clinical practice guidelines (CPGs) are defined as statements that include recommendations, intended to optimize patient care, that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options (Robin Graham *et al.,* 2011). The aim of CPGs are to improve the safety and quality of patient care by providing clinicians with graded guidance predicated on evidence of best practice (Mohamed *et al.,* 2014). The volume of the guidelines is huge means that physicians do not have time to read and memorize the full details (Stone *et al.,* 2005). CPGs are seen as a cornerstone and as important tools for the implementation and dissemination of the concept of evidence base medicine (EBM) (Butzlaff *et al.,* 2006). However, a large gap remains between what we know and what we practice (Davis *et al.,* 2003; Fonarow *et al.,* 2011). A comprehensive systematic literature review was identifying possible barriers to guideline adherence. Barriers were classified into seven general categories: barriers affecting physician knowledge (lack of awareness and lack of familiarity); those affecting attitudes lack of agreement and/or motivation to change with guidelines in general or with specific guideline recommendations, lack of self-efficacy, lack of outcome expectancy and the inertia of previous practices); external barriers such as lack of time and insufficient resources (Louis-Philippe Boulet, 2010; Cabana *et al.,* 1999; Rothschild, 2009). Few data are available about the Saudi medical resident's attitude, knowledge and barriers towards the use of CPGs (Hayfaa *et al.,* 2011). There is a lack of studies that compare the attitudes of different groups of

doctors from different subspecialties to CPGS (Carlsen and Bringedal, 2009).

Objective: To describe the medical resident's attitude, knowledge and barriers towards the use CPGS at King Faisal Specialist hospital and Research Centre (KFSH&RC)

METHODS

A self-administered questionnaire was distributed to medical residents at KFSH&RC during the academic day activity. Each question had multiple-choice options. Completion of the questioners was voluntary. The questionnaire was modified for use in this study (Hayfaa *et al.,* 2011; Sinuff *et al.,* 2007; Quiros *et al.,* 2007; Lugtenberg *et al.,* 2009; Alanen *et al.,* 2009; Greving *et al.,* 2006). It divided into four partsthe demographic characteristics of participant, practitioners' knowledge, attitudes and barriers toward guidelines.

Ethical Considerations: The completion of the questioners was voluntary. All data were acquired from the questionnaire answered by participants; Data was stored in a secure, password protected pc, in a locked room. The confidentiality of the study participants' data and their anonymity was ensured at all times. The Declaration of Helsinki and GCP guidelines are followed.

Statistical analysis: Data management and statistical analyses is done using SAS/JMP Version 14 (SAS Institute, Cary, North Carolina). Descriptive statistics for the continuous variables are reported as mean ± standard deviation and categorical variables are summarized as frequencies and percentages. A mean value more than 3 was considered as a positive attitude toward the guidelines.

RESULTS

The total number was71 residents with a response rate of 100%. The mean age was 26.83 ± 2.1. Demographic data as presented in (Table 1). Type of studies participants involved in as presented in (Table 2).

Table 1: Participants' Demographic Characteristics

Characteristics	n = 71	
Sex	**Number**	**%**
Male	48	67.6
Female	23	32.3
Medical college name		
King Saud medical college	30	42
King Faisal medical college	1	1
King Khalid medical college	1	1
Al-qassim medical college	11	15
Other	28	39
year of training		
R1	26	36.6
R2	18	25
R3	18	25
R4	9	12
	M	*SD*
Age (Mean, *SD*)	26.83	2.1

The most source of knowledge were electronic websites e.g. up-to-date (85%) followed by medical textbook (61%) then electronic pocket books/PDAs (52%). 53.5% of residents subscribed to international journals, 54% of the participants attended evidence based medical workshop .80% of attended international conferences or workshops .75% attended local conferences or workshops. 61% attended continuing medical education (CME). 54.9% of residents were used CPGs .The most useful electronic resources to access CPGs is Hospital library/ up-to-date (73.2%), personal computer (53.5%) and personal digital assistant (PDAs) (31.0%) as showed in (Figure 1). Barriers toward CPGs were identified in (Table 3). Residents' Attitudes towards guidelines were identified in (Table 4).

Table 2. Type of Studies Sampled Participants Involved in

Study Type		
	N	***%***
Retrospective Study	42	80.8
Prospective Study	8	15.4
Case Report	14	26.9
Other Study	8	15.4

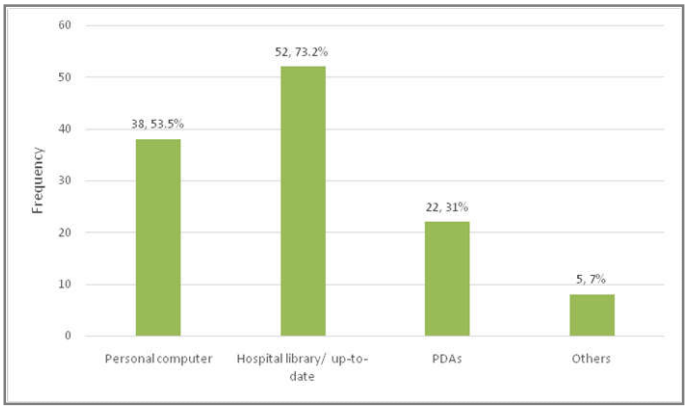

Figure 1. Classification of sampled participants according to the most useful electronic resources to access medical practice guidelines

DISCUSSION

The usage of CPGs among medical residents at KFSHRC is uncommon. The most used source of knowledge among medical residents is electronic websites e.g. up-to-date. Resident's participated actively in research especially retrospective studies. They are involved in locally conducted studies which is very important in residency training program. They actively subscribed to international journals, however there is poor subscription to local journals, may be they don't' trust local journals or not know about these journals. They attended evidence based medical workshops, international and local conferences which all help to update their knowledge. The commonest barrier is lack of motivation to change (Generally, I would prefer to continue my routines and habits rather to change based on practice guidelines). They fail to follow up guidelines due to poor patients' compliance to recommendations**.** They believe that guidelines are difficult to apply in clinical practice in addition to lack of formal implementation strategies at medical residents' institution. The lest positive barriers are lack of familiarity with the benefit associated with interventions described in guideline, lack of access to guideline and finally the lack of agreement with guideline content .73.3% of residents think information should be summarized as algorithms or flow sheets of plastic sheets, pocket cards, or electronic medical records that are convenient for physicians to use in the clinical setting. The residents don't think lack of time, lack of awareness about existence of guideline**,** lack of familiarity with guideline content, patient

Table 3: Sampled Participants Barriers Towards the Usage of Clinical Practice Guidelines (n = 71)

Barriers to use guidelines	n (%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Lack of time (I don't have the time to stay informed about available guidelines)	3(4.2)	17(23.9)	18(25.4)	18(25.4)	15(21.1)
Lack of agreement with guideline content	7(9.9)	24(33.8)	21(29.6)	19(26.8)	0(0)
Lack of awareness about existence of guideline	9(12.7)	18(25.4)	16(22.5)	23(32.4)	5(7)
Lack of familiarity with guideline content	4(5.6)	21(29.6%)	18(25.4)	23(32.4)	5(7)
Lack of familiarity with benefit associated with intervention(s) described in guideline	5(7)	24(33.8)	19(26.8)	21(29.6)	2(2.8)
Lack of motivation to change (Generally, I would prefer to continue my routines and habits rather to change based on practice guidelines)	17(23.9)	26(36.6)	14(19.7)	12(16.9)	2(2.8)
Lack access to guideline	12(17.1)	17(24.3)	20(28.6)	18(25.7)	3(4.3)
Lack of formal implementation strategies at your institution	6(8.5)	24(33.8)	24(33.8)	15(21.1)	2(2.8)
Guidelines are difficult to apply in clinical practice, not easy to use/too complex	5(7)	25(35.2)	28(39.4)	13(18.3)	0(0)
Do you think Information should be summarized as algorithms or flow sheets on plastic sheets, pocket cards, or electronic medical records that are convenient for physicians to use in the clinical setting?	31(43.7)	21(29.6)	12(16.9)	2(2.8)	5(7)
Confusion about different guidelines from different societies on the same topic	1(1.4)	2(2.8)	15(21.1)	33(46.5)	20(28.2)
Individual risk assessment is important, shouldn't generalized used of guidelines	1(1.4)	12(16.9)	18(25.4)	27(38)	13(18.3)
I failed to follow up guidelines because poor patients' compliance to the recommendations	4(5.6)	33(46.5)	26(36.6)	8(11.3)	0(0)
There are so many guidelines available that is nearly impossible to keep up	1(1.4)	12(17.1)	29(41.4)	21(30)	7(10)
Endorsement of guidelines by consultant more relevant for enhancing guideline use	9(13)	26(37.7)	28(40.6)	5(7.2)	1(1.4)

Table 4. Sampled Participants Attitude towards the Usage of Clinical Practice Guidelines (n = 71)

Attitudes to use guidelines	N(%)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Guidelines are useful as educational tools	25(35.2)	32(45.1)	10(14.1)	2(2.8)	2(2.8)
Guidelines can improve the quality of health care	30(42.3)	31(43.7)	7(9.9)	1(1.4)	2(2.8)
These guidelines can lead to cost savings	21(29.6)	35(49.3)	13(18.3)	1(1.4)	1(1.4)
Guidelines are a convenient source of advice	20(28.2)	38(53.5)	11(15.5)	1(1.4)	1(1.4)
Guidelines help to standardize care and assure that patient are treated in a consistent way	24(33.8)	39(54.9)	5(7)	2(2.8)	1(1.4)
These guidelines oversimplify medical practice (Guidelines are too 'cookbook' and prescriptive)	5(7.1)	12(17.1)	22(31.4)	12(17.1)	5(7.1)
Guidelines are difficult / too rigid to apply to individual patients	2(2.8)	22(31)	31(43.7)	12(16.9)	4(5.6)
I believe in evidence based medicine in my clinical practice	1(1.4)	1(1.4)	7(9.9)	33(46.5)	29(40.8)
I apply it in my clinical practice (These guidelines recommend what I already do in practice)	10(14.1)	39(54.9)	18(25.4)	3(4.2)	1(1.4)
Implementing these guidelines is too time-consuming and expensive	4(5.6)	27(38)	28(39.4)	9(12.7)	3(4.2)
I have not seen any guidelines applied in our health care unit	21(29.6)	29(40.8)	8(11.3)	8(11.3)	5(7)
Many of my patients cannot be treated according to these guidelines (I think these guidelines are not suitable for our patients)	7(9.9)	22(31)	29(40.8)	9(12.7)	4(5.6)
Publishing practice guidelines increases the risk of malpractice liability	10(14.1)	29(40.8)	20(28.2)	9(12.7)	3(4.2)
Most of my colleagues have disapproving attitudes about these guidelines	10(14.1)	28(39.4)	23(32.4)	9(12.7)	1(1.4)
Do you think we need Saudi task force preventive society like USTSF to have local guidelines?	40(56.3)	12(19.7)	15(21.1)	0(0)	2(2.8)

overload are barriers which always reported in previous studies (Al-Ansary *et al.,* 2002; Heiwe *et al.,* 2011; Abeysena *et al.,* 2010; Mittal *et al.,* 2010). The most positive attitude is the agreement on the need of having a local Saudi task force to design guidelines then believing in evidence based medicine in clinical practice. The most negative attitudes are that residents don't see any guidelines applied in their health care unit and the disapproving attitudes towards the guidelines by most of their colleagues. The finding of this study is consistent with other studies (Hayfaa *et al.,* 2001; Zubair Amin *et al.,* 2009; Quiros *et al.,* 2007; Hayward *et al.,* 1997; Al-Omari *et al.,* 2006). Several systematic reviews on that subject concluded that there is no magic way to change professional behavior and the best approach is to combine several strategies, such as organizing workshops, algorithms or flow sheets of plastic sheets, pocket cards, or electronic medical records that are convenient for physicians to use in the clinical setting, as well as the use of audits and a provision for feedback (Althabe *et al.,* 2005). Residents agreed that the role of consultants for enhancing guidelines use is essential.For successful implementation of guidelines, there is a need to better understand the complexity of changing clinical practice and strategies to overcome the barriers (Althabe *et al.,* 2005; Grol and Grimshaw, 2003; Grimshaw and Eccles, 2004; Grimshaw *et al.,* 2004; Tanja Birrenbach *et al.,* 2016).

Conclusion

The medical residents have barriers towards the use of CPGs. There is a need for strategies to overcome the barriers like curriculum in medical collages and residency programs to improve trainee's attitudes and knowledge toward CPGs. To encourage the role of consultants for enhancing guidelines use in clinical practice because consultant role is essential. In the future to have a national Saudi task force to design local CPGs.

Conflict of interest: The authors declared that there is no conflict of interest.

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