

ORIGINAL ARTICLE

ARE FAMILY MEDICINE RESIDENTS USING JOURNALS PERTINENT TO THEIR DISCIPLINE IN RIYADH, SAUDI ARABIA?

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ABSTRACT

Background: Today's clinicians have to adapt to rapidly changing medical environment and information overload. It has also been observed that family medicine residents study articles from journals of other specialties for updating their clinical knowledge base. The objective of this study was to determine the family medicine resident's journal selection preferences in Riyadh, Saudi Arabia.

Materials & Methods: This descriptive study was conducted from Dec 2018-May 2019 at Department of Family & Community Medicine, King Saud University, Riyadh, Saudi Arabia. Our population included 265 family medicine residents, taken as sample. After pilot testing, a confidential but anonymous questionnaire was mailed to 265 residents. Sex, age groups, training site were demographic, while choice of family medicine journals, selection of articles, patterns of educational activities and reasons for choosing specific journal were research variables. All data was categorical and was described as count and percentage with 95%CI.

Results: The questionnaire response rate was 45.28% (120/265). Out of 120, 51 (42.5%) were men and 69 (57.5%) women. 84% belonged to age group 25-30 years. Most residents 55 (46.2%) were from Ministry of Health Centers. American Family Physician journal was most frequently accessed (94.16%), whereas Annals of Family Medicine was least accessed (15.83%). Journals selection criteria were based on EBM (45.43%) in most cases, while it was based on Institute for Scientific Information in 0.83% cases. Most (76.66%) residents were utilizing case study, while minimum (18.33%) residents were using journal club as learning tool. Majority of residents were choosing journals based on suggestions by colleagues (54.16%), while minimum by medical representatives (22.50%).

Conclusion: The awareness of family practice journals that can make a family medicine resident think as a family physician was very low. By reading the high-quality family medicine journals they can learn to develop a family physicians' approach which they can apply to the person rather than the disease alone. Supportive mentorship and guidance from a devoted faculty mentors should ensure the maintenance of this approach and should be maintained throughout the residency years.

KEY WORDS: Family Practice; Residency; Information Seeking Behavior; Saudi Arabia.

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1. INTRODUCTION

1.1 Background: Today's clinicians have to adapt to the rapidly changing medical environment and information overload. The adult learners are self-

directed and make their own decisions, from what to eat -to -what to learn.¹ Clinicians rely on many sources of medical information, like journal articles and reviews. The paradox of these learners is that they get overwhelmed with the immense medical information available.

It has also been observed that family medicine residents study articles from journals of other specialties for updating their clinical knowledge base.² Studies have addressed information seeking by family medicine residents for patient care, but literature is scarce on selection of journal articles on basis of journal relevance.³ What truly matters is an efficient method/ skill required to filter it and find the relevant journals and articles in a practical and time-efficient manner. So are the Family Medicine

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Residency Training Programs helping residents to acquire this skill.⁴

So always this curiosity question persists, that is why family medicine residents don't read more? or what they should read if given chance? What has been seen that whenever residents build an approach to any clinical situation or disease, they get influenced by their learning environment.⁵ Some medical educators have been concerned with the dominance of hospital-based training and its impact on family medicine residents' approach.⁵ It's been well quoted that medical journals information should first be understood and then applied to any one's own setting.⁶

Whenever they prepare any topic or search evidence, they usually look for specialty-based journals, which hamper the family practice approach. Creating a multidisciplinary approach to any single disease is an art which can only be learned with good faculty mentorship, widening their scope of practice and bench marking high quality family medicine journals.

The education of family practice residents is important for the future health care vision of Saudi Arabia, particularly after recent changes in the Family Medicine Training Centers (FMTC). These are recently being included for Saudi Board Family Medicine (SBFM) Residency Training and are considered to be the potential sites for this training. Since the year 1970, hospital based- family medicine centers were the main training sites for Saudi Board family medicine residency training.

1.2 Objective: It has been observed that family practice trainees did not seek information from high quality family practice journals of their discipline. The objective of this study was to determine the family medicine resident's journal selection preferences in a Residency Training Program ,Riyadh, Saudi Arabia.

1.3 Significance: In the past decades, a number of studies have addressed directly or indirectly the physicians' information needs and medical information seeking behaviors. However, this area is under-explored for trainees in the field of family practice and a gap exist regarding how they are keeping up with the medical literature. This study will help to better understand trainees' preferences and different teaching modalities.

2. MATERIALS AND METHODS

2.1 Study design, setting & duration: This descriptive study was conducted from Dec 2018-May 2019 at the Department of Family & Community Medicine, King Saud University, Riyadh, Saudi Arabia. The study was approved by the Institutional Review Board vide Notification No. E-18-3201. Participation was voluntary. Informed written consent was obtained from the participants and anonymity was assured.

2.2 Population & sampling: The Saudi Board Family Medicine (SBFM) Residency Training program is producing family physicians to deliver high quality care to their patients and community for all over the Kingdom of Saudi Arabia. Family Medicine Training Centers (FMTC) of Riyadh are located in King Fahad Medical City, King Saud Medical City, Ministry of Health Centers, King Faisal Specialist Hospital, Security Forces Hospital, National Guards Hospital, Prince Sultan Military Medical City and King Khalid University Hospital.

Our population of interest was 265 residents enrolled in these eight centers at present for family medicine training program. This population was taken as a sample. All these residents were Saudis with a fairly homogenous set with similar ethnicity and cultural backgrounds. All these were eligible, with no exclusion.

2.3 Conduct of procedure: After pilot testing, a confidential but anonymous questionnaire was mailed to 265 residents. The list of residents and the type of training center they attended was furnished by the Saudi Commission for Health Specialties. We used the open source Monkey Survey web-based application tool. We designed our survey to collect self-reported information regarding the resident's journal selection preferences. All participants received an email invitation explaining the purpose of the study, the guarantee of anonymity and an individualized online link to the research questionnaire. A maximum of three email reminders were sent to residents who did not respond. Participation was voluntary. Data collection lasted around two months. No incentives were offered for survey completion.

2.4 Questionnaire: The study was conducted by means of a questionnaire survey. It was a pre-validated and pre-tested questionnaire used with authors' permission. Several of the survey questions were adapted from a previous study.⁷

The first part of this questionnaire covered the demographic characteristics of the participants (age, gender, choice of this specialty, training site) and topics such as average reading time/ week (hours per week), free online access from your training program, any access to journals hard copies from training program, types of academic activates in training program (half day release, tutorials, journal club, morning reports), how they choose articles for journal club (updates receive, self-knowledge, subject interest, to improve my management, as suggested by colleagues, faculty members, drug representatives).

Second part of the questionnaire comprised of; names of the common journals belonging to family medicine specialty and publish original research in English. Questions related to these journals were

mainly about; the awareness, how frequently they were reviewed (never/ seldom/ often), do residents consider them during journal club preparation, type of availability (soft copy/ hard copy/ not available / don't know), type of accessibility (training site /home).

2.5 Data collection & analysis plan: Sex, age groups, training site were three demographic variables. Choice of family medicine journals, selection of articles, patterns of educational activities and reasons for choosing specific journal were four research variables. All data was nominal, except for age groups, which was ordinal. Data was presented using descriptive statistics in the form of count and percentage for categorical variables with 95% confidence interval, using an online statistical calculator "Statistics Kingdom".

3. RESULTS

3.1 Demographics of participants: 120 family medicine residents completed the online survey out of 265 residents receiving questionnaire via e-mails, with a response rate of 45.2%. Out of 120, 51 (42.5%) were men and 69 (57.5%) women. Majority of these residents (84%) belonged to the age group 25-30 years. Training site details showed that Ministry of Health Centers had largest number of residents 55 (46.2%). (Table 3.1)

3.2 Choice of family medicine journals: Among these journals American Family Physician was found to be most frequently accessed (94.16%), whereas the Annals of Family Medicine was accessed the least (15.83%). (Table 3.2)

Table 3.1: Demographics of family medicine residents in Riyadh, Saudi Arabia (n=120)

Variables	Attributes	Count	Percentage
Sex	Men	51	42.5
	Women	69	57.5
Age Groups	< 25 years	6	5.0
	25-30 years	101	84.2
	>30 years	13	10.8
Training sites	King Fahad Medical City	12	10.1
	King Saud Medical City	12	10.1
	Ministry of Health Centers	55	46.2
	King Faisal Specialist Hospital	3	2.5
	Security Forces Hospital	1	0.8
	National Guards Hospital	17	14.4
	Prince Sultan Military Medical City	9	7.6
	King Khalid University Hospital	11	9.3

Table 3.2: Choice of family medicine journals by family medicine residents in Riyadh, Saudi Arabia (n=120)

S. No.	Name of the Journal	Sample statistics		95%CI for proportion	
		Count	Percentage	Lower	Upper
1	American Family Physician	113	94.16	88.44	97.14
2	Family Medicine	66	55.00	46.08	63.60
3	Family Practice	64	53.33	44.44	62.01
4	British Journal of General Physicians	62	51.66	42.81	60.41
5	Canadian Family Physician	58	48.33	39.58	57.18
6	BMC Family Medicine Practice	24	20.00	13.82	28.03
7	The European Journal of General Practice	20	16.66	11.05	24.34
8	Annals of Family Medicine	19	15.83	10.37	23.40

Are family medicine residents using journals pertinent to their discipline in Riyadh, Saudi Arabia?.

3.3 Selection of articles: When considering various journals selection criteria, very few were based on Impact Factor or Institute for Scientific Information (ISI), while majority were based on EBM or were exclusively family practice journals. (Table 3.3)

3.4 Patterns of educational activities: Regarding the specific types of academic activities in their training programs and resident's preference, it was found that most (76.66%) of the residents are utilizing case study, while minimum (18.33%) residents are using journal club as learning tool. (Table 3.4)

3.5 Reasons for choosing specific journal: Regarding how residents choose articles for their academic activities; it was found that majority of residents are choosing journals based on suggestions by colleagues (54.16%), while minimum by medical representatives (22.50%). (Table 3.5)

4. DISCUSSION

Our study is the first of its kind conducted among the family medicine residents assessing their information seeking behavior during residency training in Riyadh, Saudi Arabia. This study found that awareness of

Table 3.3: Selecting of articles by journal selection criteria by family medicine residents in Riyadh, Saudi Arabia (n=120)

S. No.	Journal selection criteria	Sample statistics		95%CI for proportion	
		Count	Percentage	Lower	Upper
1	Evidence Based	55	45.83	37.18	54.73
2	Family Practice Journals	28	23.33	16.66	31.65
3	Impact Factor	9	7.50	3.99	13.64
4	ISI journal	1	0.83	0.14	04.56

Table 3.4: Educational activities by family medicine residents in Riyadh, Saudi Arabia (n=120)

S. No.	Educational activity	Sample statistics		95%CI for proportion	
		Count	Percentage	Lower	Upper
1	Case study	92	76.66	68.34	83.33
2	Self-directed learning	90	75.00	66.55	81.89
3	Small group activities	77	64.16	55.27	72.18
4	Skills workshops	43	35.83	27.81	44.72
5	Student led seminars	39	32.50	24.77	41.30
6	Evidence based medicine	39	32.50	24.77	41.30
7	Journal club	22	18.33	12.43	26.20

Table 3.5: Reasons for choosing specific journal by family medicine residents in Riyadh, Saudi Arabia (n=120)

S. No.	Reasons for choosing specific journal	Sample statistics		95%CI for proportion	
		Count	Percentage	Lower	Upper
1	Colleagues	65	54.16	45.26	62.81
2	Topic of interest	63	52.50	43.62	61.21
3	Updates received	55	45.83	37.18	54.73
4	Search in journals	51	42.50	34.02	51.44
5	Faculty Trainers	49	40.83	32.45	49.77
6	Better patient management	45	37.50	29.35	46.42
7	Medical representatives	27	22.50	15.94	30.75

family practice journals that publish original research and creates family physicians' approach to any topic was very low among trainees.

Family medicine residents are required to understand and discuss a very wide spectrum of information to meet patients' multidisciplinary needs. Consequently, this domain seeks to ensure that residents are trained to continually investigate, question, and seek new knowledge; share those best practices with medical colleagues; and employ said knowledge in the diagnosis and treatment of patients by practicing appropriate decision-making processes.⁸

4.1 Choice of family medicine journals: In this study we found that "American Family Physicians" accessibility was comparatively higher (94%); although major reason seems to be its free accessibility.

Lot of concerns has been raised regarding residents' approach to any reference material and preparing any topic from primary care perspectives. They usually very easily get carried away with the depth of the information especially the clinical part and were not able to choose what is really required as family physician. The "American Family Physician" journal has been very famous to keep residents on track with a primary care approach.

4.2 Residents articles selection criteria: This study reports that impact factor (0.83%) and Institute for Scientific Information (7.50%) (ISI) were weak predictors for selecting any journal. Although study elsewhere has reported that impact factor (IF) mania has influenced that quality of information seeking by the residents as well as senior faculty mentors.⁹ In contrary, another study has reported that trainees often feel under great pressure to select principal articles and want to avoid criticism about their selection, so they frequently choose from very high impact factor and ISI journals.¹⁰ This could be due to the pressure from faculty mentors who were more focused to ISI & high IF journal as a requirement for their own professional growth.

4.3 Patterns of educational activities: The results of this study showed that residents were reported to underutilize the evidence based medicine (EBM) (32.50%) or Journal club (18.33%) as learning tools. Studies elsewhere have reported that educational activities like student led seminars help in creating enthusiasm, improve communication skills, more peer interaction and team work.¹¹ In another study university-based family medicine residency program restructured its journal club to build a model that engages residents in a peer-teaching experience.¹² Although it has been found that during journal club the residents participate in planning the activities, they learn from each other, and take lead to identify their learning goals in a relevant and meaningful manner.¹³ Another systematic review showed that learning EBM in a clinical practice setting helps residents to improve their knowledge, critical appraisal

skills, attitudes, and behavior.¹⁴ The probable reason for low utilization of EBM could be because the new Saudi MED-FM 2020 curriculum has not included EBM courses as part of their learning methods. In addition, the research projects are also no more a mandatory requirement for the completion of their residency training.¹⁵

Lot of concerns has been raised regarding residents' approach to any reference material and preparing any topic from primary care perspective. They usually very easily get carried away with the depth of the information especially the clinical part and were not able to choose what is really required as family physician. In order to achieve this objective, they definitely need a much focused mentoring from dedicated mentors. The "American Family Physician" has been very famous to keep residents on track and keep a primary care approach .

4.4 Reasons for choosing specific journal: Healthcare in the Saudi Arabia is delivered primarily through a publicly funded health system accounting for 80% of the healthcare provided in the country through more than 3000 primary care centers spread across the country. The Ministry of Health (MoH) is the main provider, operating around 60% of the hospitals and primary care centers.⁷ Findings of this study have also highlighted a comparatively lower trend from faculty trainers (40.83%) in filtering huge volume of information for their trainees as per primary care perspective. This could be due to resident's poor compliance towards mentors or less trainer's commitment in this area. Literature elsewhere has also reported that residents were facing difficulties in obtaining and analyzing a large volume of relevant data.¹⁶ They usually select what they perceive to be an easily accessible options (for example, selecting Google or "UpToDate" and just locate a piece of needed information instead of conducting a thorough literature review and see what applies in their own set up.¹⁷ Study elsewhere has reported that trainers/ mentors prepare the residents by doing critical appraisal of the identified article and facilitate resident to prepare an interactive discussion.¹² In one study about 41% of the residents reported that focused mentors/ trainers' suggestions have major role on the type of journal they select for preparing any topic.¹⁸

This study has also reported the influence of pharmaceutical industry/ medical representatives (22.50%) on residents' habits of information seeking behavior. The relationship between pharmaceutical industry and physicians has always been a topic of debate since decades.¹⁹ Several studies have reported that trainees are more vulnerable to pharmaceutical industry as they are sharing reading material, free websites and free access to medical journals.^{20,21} Several other studies have also reported that the extent of these pharmaceutical interactions varies

with academic versus non-academic institutions, as the non-academic institutions like Ministry of Health or Polyclinics have reported more interactions than others.²²⁻²⁵

Overall the findings of this study have mentioned different factors effecting resident's information seeking behavior like different learning tools, attitude, external factors (pharmaceutical company influence), lack of focused mentoring or particular journal type. Similar findings were reported by other studies as well, where trainees had problems in approaching the topics and not making appropriate use of learning opportunities within the context of family practice.^{26,27}

4.5 Strength & limitations of the study: The responders were in their residency training and reported their real-life experiences; hence reducing the risk of recall bias. The data was firsthand and immediate. We did not control for the variation in programs among hospitals, a potential confounding factor. We assumed that all hospital-based training centers might also have community health services available. We conducted the survey among residency training programs in Riyadh region only, so this cannot be generalized to family medicine programs all over the country. The response rate was also comparatively lower than desired.

4.6 Recommendations: This is high time to accept that our residents should not just be acquiring education by simply memorizing the tools but they should be really invested in adopting this educational tool. This will broaden their horizon of holistic approach and help to develop an attitude to read each patient uniquely. Just evaluating any disease risk scores, doing clinical order sets or screening tools will narrow their clinical framework, which can just give them a false reassurance of diagnostic certainty. They should learn the art of self-reflection which will definitely nurture them in becoming a wise, humane, empathic future family practitioner.

5. CONCLUSION

The awareness of family practice journals that can make a family medicine resident think as a family physician was very low. By reading the high-quality family medicine journals they can learn to develop a family physicians' approach which they can apply to the person rather than the disease alone. The faculty mentors should help trainees in choosing appropriate articles and appropriate resources. Supportive mentorship and guidance from a devoted faculty ensures the maintenance of this approach and should be maintained throughout residency program.

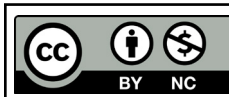
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CONFLICT OF INTEREST
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