

Challenges Faced by Family Medicine Residents during Rotation in Other Specialties at King Fahad Medical City (KFMC)

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Abstract

Objective: To explore challenges faced by family medicine residents at King Fahad Medical City and recommend solutions for these challenges.

Method: A cross sectional study structural Questionnaire based cross-sectional study was conducted in family medicine training in King Fahad Medical City - Riyadh.

Conclusion: Identifying the difficulties find a solution, and ensure these solutions are carried out is a key role to produce a new generation of family physician who can improve the quality of health care for the population of Saudi Arabia.

Keywords: Family Medicine Residents; Rotation; King Fahad Medical City (KFMC)

Introduction

Family medicine is considered to be one of the most comprehensive specialties in Medicine [1]. It started evolving in the USA since 1969, while it was slowly spreading in the Middle East [1]. It started developing in Saudi Arabia from the 1980's in Riyadh [2].

Family medicine practice provides a primary health care to the community that enable preventive and cost-effective therapies [3]. As family medicine is one of the most rapidly growing medical fields in the country, more specialized education and training is urgently required for practitioners in order to follow up with the latest updates [4]. However, shortage of prepared medical centers, and the limited number of family physicians who can train junior doctors; are some challenges facing family medicine residents during their training program [5].

Participants have suggested some regulations to increase the capacity of the family physicians, improve the family medicine program, and provide financial requirements for the training, safety process during service presentation, improvement of community participation in order to face all those challenges [5]. Furthermore, to improving the quality of health care, family physicians need to be more professional, as a good health care service is a result of good combination and cooperation between the family physicians, doctors, nurses, lab technicians, and the policy makers [6].

Another major problem usually the family residents face during rotations around other different specialties is being given overloaded tasks, taking advantage of uncertainty when it comes to family medicine official rules.

At the end, based on all those previously mentioned challenges, we are here aiming to discover, study, and solve these obstacles.

Literature Review

Chiel., *et al.* (2012) performed a qualitative study among Kenyan family physicians and their colleagues and reported some of the challenges that faced the family physicians during performing their role. One of these challenges was that FPs felt they act as a human resource

recruiter. Taking up other specialist's role would prevent them to perform their role, so they felt with the misuse. This might take over time that considered a major burden to the family physician. So, the ministry of health should put sharp and clear instructions to all institutions about family physicians' assignments. Also, couples of FPs should be in the hospital. FPs sometimes felt fatigue because of tremendous role that they provided to the community [7].

Al-Khalidi, *et al.* (2014) mentioned the challenges that family medicine students faced during their postgraduate training in Saudi Arabia. They reported that family medicine itself is considered as a challenging discipline because of students should be specifically trained. Also, the medical training centers and hospitals didn't contain any updated health records that might increase the scarcity of trainers who had the ability to use taking techniques. Furthermore, the scarcity of family practitioners in Saudi Arabia has increased the workload of individual physicians, which then increases burnout among physicians and decreases the time they have to teach medical residents [8].

Mash, *et al.* (2008) in a study in Sub-Saharan Africa on the family medicine and reported that one of the challenges that FPs faced was that as they close to the community as the door of the outpatient unit. Also mainly reasons that prevented them to go out into the community were lacking of funds, transport facilities and time. Also, they said that going into the community would not be cost-effective, as they would just reach one community member at a time. While, another FP said that it would be cost-effective, as the information he would give to one member of the community would transfer and become known to the other community members. This because of FPs felt that any information he would say to the community will enlighten the community and had an effective impact more than the information that were said by a nurse or clinical officer [9].

Objective of the Study

Primarily

- To explore challenges facing family medicine residents at King Fahad Medical City.

Secondarily

- To recommend solutions for these challenges.

Justification and rationale

No local study has been before regarding difficulties facing family medicine residents in other specialties rotations.

Reflection of residents' experience in different rotations will be taken seriously in improving training level of family medicine residency program.

Research question

What are the challenges that facing medicine residents during rotation in other specialties in KFMC?

Materials and Methods

Study design: Cross sectional study.

Settings: KFMC.

Period: 1 year.

Population: Family medicine residents in all levels (R1, R2, R3, and R4).

Inclusion criteria: KFMC family medicine resident, outside KFMC rotators, who signed informed consent.

Exclusion criteria: other than family medicine residents, who did not signed consent.

Data collection: Each of the three members of the research team will approach the participant during residents Weekly Academic Day Activity (WADA) which usually done every Tuesday and Wednesday, using convince sampling technique. The research member will distribute

a self-administrative MCQs questionnaire to all residents who accept and sign the consent to participate in the study at the beginning of the day and will collect completed ones at the end of WADA day.

Tool

- Questionnaire was developed based-on research members' self-experience, and other colleagues' feedback after each rotation.
- Questions was formed after many discussions, brainstorming, and reading related articles. Also, we will meet our supervisor to help us in forming the questions.
- Questionnaire validity is still processing (not yet finalized).
- Questionnaire is divided into four parts:
- **First part:** Demographic information; (age, gender, training level, marital status, residency city)
- **Second part:** Will be about challenges as; Workload, time pressures, meeting demands, getting respect from specialists, availability of specialists, procedures, tests, and other resources, satisfaction of education level and gaining knowledge (evaluated by David Rock's SCARF Model).
- **Third part:** Will be an open-ended question about suggested solutions for these challenges.

Sample size calculation

Family medicine residents (levels II, III and IV) at KFMC, by cross sectional consensus.

Ethical consideration

- The participants will be given a brief description of the study and its objectives, and a written consent will be obtained from every participant in this study.
- Confidentiality will be assured to all participants who agreed to participate in the study.
- The privacy and confidentiality of the data and study results will be secured by restricting unauthorized access.
- The study can be published once it is approved by the IRB.

Data analysis

- Data will be analyzed using the Statistical package for social sciences SPSS software, version 16.
- $P < 0.05$ and 95% confidence interval will be used to report the statistical significance and precision of result.

Results

To achieve objectives of the study which been: explore challenges facing family medicine residents at King Fahad Medical City; discover factors associated with these challenges; and recommend solutions for these challenges, cross sectional study was conducted within KFMC within a year. 127 samples were involved from different family medicine residency levels as: 16.5% from level 1, 35.4% from level 2, 37% from level 3 and only 11% from the level 4. Both males and females were involved in the study with percentages (50.4%, and 49.6%, respectively). 65.4% from respondents were Single, and the rest were married. According to respondents, most of them were passed the results of last year (81.1%) (See table 1).

Variable	Count	Table N %
Age (Mean ± STD) (28 ± 3)		
Gender	Male	64, 50.4%
	Female	63, 49.6%
Marital status	Single	83, 65.4%
	Married	44, 34.6%
Level of training	R1	21, 16.5%
	R2	45, 35.4%
	R3	47, 37.0%
	R4	14, 11.0%
Residency city	Riyadh	124, 97.6%
	Outside Riyadh	3, 2.4%
Result of last year exam (part 1/promotion)	Passed	103, 81.1%
	Not Passed	24, 18.9%
In which rotation are you facing challenges the most? (Please choose one answer)	Internal Medicine	69, 54.3%
	Paediatrics	18, 14.2%
	General Surgery	5, 3.9%
	Emergency medicine	28, 22.0%
	Obstetrics and Gynaecology	5, 3.9%
	Family medicine	1, 0.8%
	Psychology	1, 0.8%

Table 1: Respondent's profile (n= 127).

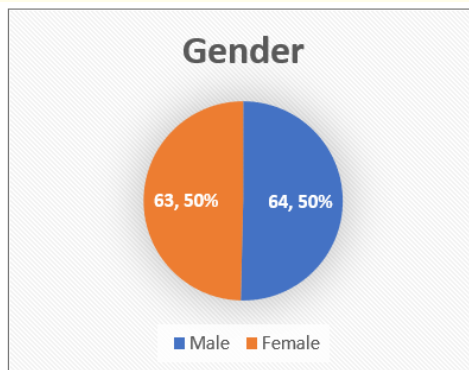


Figure 1: Gender profile.

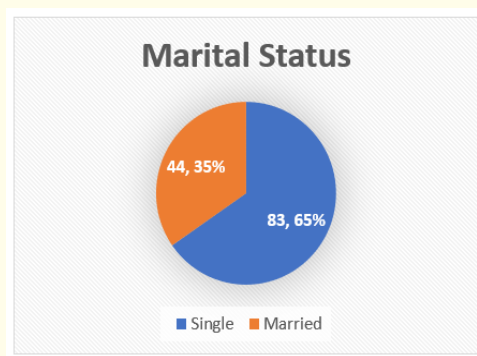


Figure 2: Marital status profile.

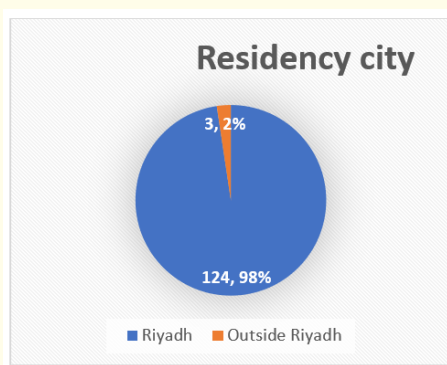


Figure 3: Residency city profile.

Respondents showed that internal medicine department was highest one in term of facing challenges (54.3%), followed by emergency medicine department (22%), then pediatric department (14.2%), then general surgery and obstetrics and gynecology department with 3.9%, and the least ones were Family medicine and Psychology departments with 0.8% (See table 2).

Dimension	Reliability Statistics	
	Cronbach's Alpha	N of Items
Challenge's dimension	.790	11
David Rock's SCARF Model Assessment	.730	5

Table 2: Reliability test (n= 127).

Reliability of dimensions was tested through Cronbach's alpha test, which used for both challenges dimension and David rock's scarf model assessment dimension, were results showed that both were reliable and measure what intend to measure (Cronbach's Alpha value = .790, and .730, respectively).

To explore challenges facing family medicine residents at King Fahad Medical City, table 3, showed that respondents were mostly agree that they have heavy workload and time pressure (Mean = 4.05), as well as they mostly agree that they face inadequate number of teaching trainers (mean = 4).

Challenges facing you	SD		D		N		A		SA		Mean	STD
	C	%	C	%	C	%	C	%	C	%		
Feel heavy workload and time pressure	9	7.1%	4	3.1%	10	7.9%	53	41.7%	51	40.2%	4.05	1.119
Face unequal distributed tasks with specialty's residents	9	7.1%	30	23.6%	25	19.7%	28	22.0%	35	27.6%	3.39	1.304
Have not achieved objectives that required in each rotation	1	0.8%	13	10.2%	25	19.7%	51	40.2%	37	29.1%	3.87	.979
Feel under-estimated by co-workers	10	7.9%	14	11.0%	28	22.0%	35	27.6%	40	31.5%	3.64	1.251
Face inadequate number of teaching trainers	1	0.8%	12	9.4%	18	14.2%	51	40.2%	45	35.4%	4.00	.976
Face unavailability of procedures, tests, and other resources	2	1.6%	18	14.2%	41	32.3%	39	30.7%	27	21.3%	3.56	1.029
Feel unsatisfied of education level and gaining knowledge	1	0.8%	12	9.4%	25	19.7%	56	44.1%	33	26.0%	3.85	.943
Upset of un-applcated SCFHS regulations of family medicine program	7	5.5%	21	16.5%	28	22.0%	33	26.0%	38	29.9%	3.58	1.231
Not getting feedback at the end of each rotation	1	0.8%	17	13.4%	35	27.6%	45	35.4%	29	22.8%	3.66	1.002
Feel unsatisfied of end-of-rotation evaluation (ITER)	12	9.4%	43	33.9%	38	29.9%	23	18.1%	11	8.7%	2.83	1.106
Face lack of rules clarification from department's secretary to other specialties	6	4.7%	31	24.4%	36	28.3%	32	25.2%	22	17.3%	3.26	1.149

Table 3: Challenges facing family medicine residents (n = 127).

Other faced challenges that they mostly neutral to agree in existence were shown as: Have not achieved objectives that required in each rotation (Mean = 3.87); unsatisfied of education level and gaining knowledge (Mean = 3.85); Not getting feedback at the end of each rotation (Mean = 3.66); Feel under-estimated by co-workers (Mean = 3.64); Upset of un-applcated SCFHS regulations of family medicine program (Mean = 3.58); Face unavailability of procedures, tests, and other resources (Mean = 3.56); Face unequal distributed tasks with specialty’s residents (Mean = 3.39); Face lack of rules clarification from department’s secretary to other specialties (Mean = 3.26). Respondents were almost near to disagree that they Feel unsatisfied of end-of-rotation evaluation (ITER) with mean = 2.83.

In table 4, the David Rock’s SCARF Model Assessment was conducted where the respondents were almost neutral regards the status “feel relatively important (valuable) to other co-workers” with mean = 3.12 out of 5. As well as they been almost neutral regards the autonomy “Autonomy: I have the chance to be involved in patient care planning” with mean = 3.24. However, respondents were almost disagreeing regards the domains of: Certainty: I receive clear instructions by other specialties (Mean = 2.85); Relatedness: I feel safe and belonged to the team in other specialties (Mean = 2.85); and Fairness: I am being treated fairly from other specialties (Mean = 2.94).

David Rock’s SCARF Model Assessment	SD		D		N		A		SA		Mean	STD
	C	%	C	%	C	%	C	%	C	%		
Status: I feel relatively important (valuable) to other co-workers.	3	2.4%	28	22.0%	52	40.9%	39	30.7%	5	3.9%	3.12	.878
Certainty: I receive clear instructions by other specialties.	8	6.3%	36	28.3%	51	40.2%	31	24.4%	1	0.8%	2.85	.892
Autonomy: I have the chance to be involved in patient care planning.	8	6.3%	21	16.5%	34	26.8%	61	48.0%	3	2.4%	3.24	.971
Relatedness: I feel safe and belonged to the team in other specialties.	14	11.0%	32	25.2%	43	33.9%	35	27.6%	3	2.4%	2.85	1.024
Fairness: I am being treated fairly from other specialties.	10	7.9%	33	26.0%	48	37.8%	27	21.3%	9	7.1%	2.94	1.037

Table 4: David Rock’s SCARF model assessment (n = 127).

In table 5, the respondents suggested some recommendations to avoid challenges, where results showed that respondents recommended some ideas starting with Raising staff awareness of the training process (16.48%) as highest priority from their perception, and end with Availability of an adequate number of patients to train well as lowest perceived idea (7.41%). Other recommendations were listed as: Need of authorities Cooperation; ex: Our secretary must send the roles to the other department in a clear way and in details before any rotation; Need of cooperation of people in charge; Need of sufficient time to minimize load and pressure; Providing more practice orientation than exam orientation; All specialties must abide by our roles; and Every resident should give feedback after each rotation for the sake of developing the training process.

Recommendations	C	%
Need of authorities Cooperation; ex: Our secretary must send the roles to the other department in a clear way and in details before any rotation	68	12.59%
Need of cooperation of people in charge	69	12.78%
Need of sufficient time to minimize load and pressure	72	13.33%
Providing more practice orientation than exam orientation	66	12.22%
Raising staff awareness of the training process	89	16.48%
All specialties must abide by our roles	70	12.96%
Availability of an adequate number of patients to train well	40	7.41%
Every resident should give feedback after each rotation for the sake of developing the training process	66	12.22%

Table 5: Respondent’s recommendations (n = 540).

Relationship between challenges and demographic factors

To find out if there are any demographic factors that determine the level of challenges that faced during residency, t-test and ANOVA tests were performed. According to table 6, it showed that no statistically significant differences between males and females’ respondents in their perception toward challenges that they face, as well as between single and married respondents (P-value More than 0.05). further, no statistically significant differences between respondents who live in Riyadh city or outside in their perception related to their perception toward challenges they face. However, results showed that statistically significant differences in the perception toward challenges that faced between respondents in different level of training; where respondents in R1 had have higher perception toward existence of challenges that they face compared to respondents in R2 or R3 or R4 (P-value = 0.003).

Variable	Category	Overall Challenges			t-test	P-value
		N	Mean	Std. Deviation		
Gender	Male	64	3.6165	.63097	.158	.875
	Female	63	3.5988	.62870		
Marital status	Single	83	3.5717	.58719	-.887	.377
	Married	44	3.6756	.69908		
Residency city	Riyadh	124	3.6085	.62793	.089	.929
	Outside Riyadh	3	3.5758	.74041		
Variable	Category	N	Mean	Std. Deviation	F	P-value
Level of training	R1	21	3.6494	.74871	4.856	.003
	R2	45	3.7697	.63447		
	R3	47	3.5938	.54077		
	R4	14	3.0714	.38927		

Table 6: Relationship between challenges and demographic factors (n = 127).

To find out if there are any differences between males and females in their perception toward David Rock’s SCARF Model Assessment, table 7 showed that no statistically significant differences between them in related to the perception toward status, certainty, and autonomy dimensions (P-value more than 0.05), however, it was significant in related to the relatedness and fairness dimensions (P-value less than 0.05); where males feels safe and belonged to the team in other specialties more than females, as well as they feel that they treated fairly from other specialties compare to females.

David Rock’s SCARF Model Assessment	Gender	N	Mean	STD	t-test	P-value
Status: I feel relatively important (valuable) to other co-workers.	Male	64	3.11	.928	-.113	.911
	Female	63	3.13	.833		
Certainty: I receive clear instructions by other specialties.	Male	64	2.84	.895	-.084	.933
	Female	63	2.86	.895		
Autonomy: I have the chance to be involved in patient care planning.	Male	64	3.30	1.003	.708	.480
	Female	63	3.17	.943		
Relatedness: I feel safe and belonged to the team in other specialties.	Male	64	3.11	1.010	2.959	.004
	Female	63	2.59	.978		
Fairness: I am being treated fairly from other specialties.	Male	64	3.16	1.042	2.449	.016
	Female	63	2.71	.991		

Table7: Relationship between David Rock’s SCARF model assessment and gender factor (n = 127).

To find out if there are any differences between singles and married respondents in their perception toward David Rock’s SCARF Model Assessment, table 8 showed that no statistically significant differences between them in related to the perception toward status, certainty, relatedness, and fairness dimensions (P-value more than 0.05), however, it was significant in related to the autonomy dimension (P-value less than 0.05); where married perceived higher than singles toward having chance to be involved in patient care planning.

David Rock’s SCARF Model Assessment	Marital status	N	Mean	STD	t-test	P-value
Status: I feel relatively important (valuable) to other co-workers.	Single	83	3.01	.876	-1.888	.061
	Married	44	3.32	.857		
Certainty: I receive clear instructions by other specialties.	Single	83	2.76	.835	-1.596	.113
	Married	44	3.02	.976		
Autonomy: I have the chance to be involved in patient care planning.	Single	83	3.00	1.048	-3.979	.000
	Married	44	3.68	.601		
Relatedness: I feel safe and belonged to the team in other specialties.	Single	83	2.73	1.049	-1.759	.081
	Married	44	3.07	.950		
Fairness: I am being treated fairly from other specialties.	Single	83	2.82	1.072	-1.772	.079
	Married	44	3.16	.939		

Table 8: Relationship between David Rock’s SCARF model assessment and marital status factor (n = 127).

To find out if there are any differences in perception toward David Rock’s SCARF Model Assessment, between respondents if they live in Riyadh city or outside the city, table 9 showed that no statistically significant differences between them in all dimensions (P-value more than 0.05).

David Rock’s SCARF Model Assessment	Residency city	N	Mean	STD	t-test	P-value
Status: I feel relatively important (valuable) to other co-workers.	Riyadh	124	3.13	.874	.900	.370
	Outside Riyadh	3	2.67	1.155		
Certainty: I receive clear instructions by other specialties.	Riyadh	124	2.85	.890	.360	.719
	Outside Riyadh	3	2.67	1.155		
Autonomy: I have the chance to be involved in patient care planning.	Riyadh	124	3.25	.968	1.028	.306
	Outside Riyadh	3	2.67	1.155		
Relatedness: I feel safe and belonged to the team in other specialties.	Riyadh	124	2.85	1.026	.313	.755
	Outside Riyadh	3	2.67	1.155		
Fairness: I am being treated fairly from other specialties.	Riyadh	124	2.94	1.042	-.106	.916
	Outside Riyadh	3	3.00	1.000		

Table 9: Relationship between David Rock’s SCARF model assessment and residency city factor (n = 127).

To find out if there are any differences in perception toward David Rock’s SCARF Model Assessment, between respondents if they passed the results or not, table 10 showed that no statistically significant differences between them in all dimensions (P-value more than 0.05).

David Rock’s SCARF Model Assessment	Result of last year exam	N	Mean	STD	t-test	P-value
Status: I feel relatively important (valuable) to other co-workers.	Passed	103	3.06	.884	-1.601	.112
	Not Passed	24	3.38	.824		
Certainty: I receive clear instructions by other specialties.	Passed	103	2.82	.860	-.912	.363
	Not Passed	24	3.00	1.022		
Autonomy: I have the chance to be involved in patient care planning.	Passed	103	3.20	.922	-.776	.439
	Not Passed	24	3.38	1.173		
Relatedness: I feel safe and belonged to the team in other specialties.	Passed	103	2.82	.937	-.793	.429
	Not Passed	24	3.00	1.351		
Fairness: I am being treated fairly from other specialties.	Passed	103	2.92	.936	-.329	.743
	Not Passed	24	3.00	1.414		

Table 10: Relationship between David Rock’s SCARF model assessment and result of last year exam (part 1/promotion) factor (n = 127).

To find out if there are any differences in perception toward David Rock’s SCARF Model Assessment, between respondents in different training level, table 11 showed that no statistically significant differences between them in all dimensions (P-value more than 0.05).

David Rock’s SCARF Model Assessment	Training level	N	Mean	STD	F-test	P-value
Status: I feel relatively important (valuable) to other co-workers.	R1	21	3.24	.768	1.224	.304
	R2	45	3.18	.912		
	R3	47	2.94	.942		
	R4	14	3.36	.633		
Certainty: I receive clear instructions by other specialties.	R1	21	2.95	1.117	1.167	.325
	R2	45	2.73	.837		
	R3	47	2.81	.900		
	R4	14	3.21	.579		
Autonomy: I have the chance to be involved in patient care planning.	R1	21	3.24	1.179	.392	.759
	R2	45	3.20	1.036		
	R3	47	3.19	.924		
	R4	14	3.50	.519		
Relatedness: I feel safe and belonged to the team in other specialties.	R1	21	2.71	1.146	.791	.501
	R2	45	2.78	1.064		
	R3	47	2.87	1.035		
	R4	14	3.21	.579		
Fairness: I am being treated fairly from other specialties.	R1	21	2.81	1.365	.774	.511
	R2	45	2.84	1.205		
	R3	47	2.98	.794		
	R4	14	3.29	.469		

Table 11: Relationship between David Rock’s SCARF Model Assessment and factor (n = 127).

Discussion

To our knowledge, this study is dedicated to family medicine training difficulties in KFMC Riyadh. Unlike other specialties that are limited specifically to the certain body system, the family medicine doctor is the only one qualified to provide continuing and comprehensive health care for the individual and family across all ages, genders, diseases, and parts of the body. To establish this; standards of accreditation of training programs in family medicine have to build up effective teaching of the basic principles of family medicine.

The most frequent challenges facing family medicine residents during the training program increased the workload, less time management, and unequal tasks distribution despite the regulation issued by the Saudi Commission of Health Specialty that enhances effective planning of time control and high efficiency in assigning tasks to trainees. a study was conducted on Primary Health Care Department of the Ministry of Health, Saudi Arabia, and World Health Organization (EMRO) in November 2015 showed that Work overload was one of the challenges although they recommend reducing administrative related activities to fix the problem but to reduce the role overload that physicians experience; reviewing the ratio between physicians and patients and re-assessing the number of work hours and the weekly frequency of on-calls must be applied to give the undergraduate the time and ability to have the adequate training and reduce stress and exhaustion [5]. Moreover, Clinical rotations in family medicine are a crucial educational element that impacts residents’ professional growth since they enhance collaboration skills with other specialties and polish the skills in dealing with a variety of cases. To establish this a good communication between all departments has to be executed by disseminating a standard form containing the curriculum of family medicine needed in each specialty and the tasks that need to be implemented by the family physician.

Conclusion

Identifying the difficulties facing the family medicine residents find a solution, and ensure these solutions are carried out is a key role to produce a new generation of family physician who can improve the quality of health care for the population of Saudi Arabia.

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