

Difficulties faced by family physicians in primary health care centers in Jeddah, Saudi Arabia

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ABSTRACT

Aim: The aim was to determine the difficulties faced by family physicians, and compare how satisfied those working with the Ministry of Health (MOH) are with their counterparts who work at some selected non-MOH hospitals. **Methods:** An analytical, cross-sectional study was conducted at King Abdulaziz University Hospital, King Faisal Specialist Hospital and Research Center (KFSH and RC), and 40 MOH primary health care centers across Jeddah. A structured multi-item questionnaire was used to collect demographic data and information on the difficulties family physicians face. The physicians' level of satisfaction and how it was affected by the difficulties was assessed. **Results:** Women constituted 71.9% of the sample. Problems with transportation formed one of the main difficulties encountered by physicians. Compared to non-MOH physician, a significantly higher proportion of MOH physicians reported unavailability of radiology technicians ($P = 0.011$) and radiologists ($P < 0.001$), absence of the internet and computer access ($P < 0.001$), unavailability of laboratory services ($P = 0.004$), reagents ($P = 0.001$), X-ray equipment ($P = 0.027$), ultrasound equipment ($P < 0.001$), an electronic medical records system ($P < 0.001$), insufficient laboratory tests ($P = 0.0001$), and poor building maintenance ($P < 0.001$). Family physicians with the MOH were less satisfied with their jobs compared with non-MOH physicians ($P = 0.032$). **Conclusion:** MOH family physicians encountered difficulties relating to staff, services, and infrastructure, which consequently affected their level of satisfaction.

Key words: Family medicine, family physicians, Ministry of Health, difficulties, primary health care

INTRODUCTION

Family medicine is the cornerstone of the health care system^[1] because family physicians screen everyone seeking help, regardless of age, gender, or disease.^[2,3] However, these physicians face several difficulties and problems that decrease their job satisfaction and hamper the delivery of medical services. This in turn lowers patient satisfaction and increases the turnover of staff at primary health care (PHC) centers. By overcoming the obstacles in PHC systems, the level of job satisfaction among family physicians will rise, eventually leading to improved quality of health care services and the health care system as a whole.

In the Arab world, several problems hinder the development of family medicine. Until the beginning of the twenty first century, one of the problems faced by family physicians in Arab nations was the absence of adequately equipped PHC centers, some of which were old houses converted into clinics.^[4] However, secondary and tertiary care hospitals were well constructed and furnished. Another problem was inadequate financial support for primary care and family physicians. These factors together resulted in lower job satisfaction among PHC family physicians compared to doctors who worked in secondary and tertiary care hospitals.^[4]

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In Saudi Arabia, PHC centers also face many obstacles that affect the quality of services provided to the community. These include a deficiency of diagnostic tests, drugs, shortage of diagnostic facilities and staff, as well as lack of adequate resources and inability to access scientific journals through the internet or libraries.^[5,6] These obstacles cause stress and dissatisfaction among family physicians and can consequently affect their creativity, commitment, and the quality of care they provide to patients.^[7] Unfortunately, these studies only describe the difficulties faced by PHC physicians and/or nurses and do not consider the difficulties faced by family physicians working in other health sectors.

The objectives of this study were to determine the difficulties faced by family physicians working with the Ministry of Health (MOH) and how these relate to their satisfaction in comparison with the level of satisfaction of their counterparts at non-MOH hospitals.

METHODS

This analytical, cross-sectional study was done between December 2012 and February 2013 on family physicians at two non-MOH hospitals (King Abdulaziz University Hospital [KAUH] and King Faisal Specialist Hospital and Research Center [KFSH and RC]) and 40 PHC centers in Jeddah.

The sample included all family physicians at PHC centers in Jeddah, Saudi Arabia or non-MOH institutions, namely KAUH or KFSH and RC who were available during the data collection period. Physicians were invited to participate in this survey by phone calls or E-mails. The study questionnaire was uploaded and the survey link sent to the E-mail addresses of those physicians who accepted the invitation to participate. In some cases, we visited physicians at their offices to complete the questionnaire using the iPad.

The questionnaire, based on extensive literature review and discussion with some family physicians, was constructed by two epidemiologist family physicians. It was reviewed by two expert family physicians who evaluated the questionnaire for meaning, flow, and clarity of instructions, and modified as necessary.

We used a fully-structured multi-item questionnaire that comprised three parts. The first part comprised questions on basic demographic and professional data, including age, gender, marital status, nationality, and education. The second part had questions that assessed the difficulties faced by family physicians because of deficiencies in the health facility, and had only “Yes” or “No” answer options.

The third part used Likert scale to determine the level of satisfaction of family physicians and how it was affected by the difficulties they encountered in their practice.

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 20 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were computed for all variables. The Chi-square test was used to establish the relationship between categorical variables, while the independent *t*-test was used to check differences between group means if normality was assumed. Otherwise, Welch’s *t*-test was used. Pearson’s correlation coefficient was utilized to test the correlation between variables. Significance was set at $P < 0.05$.

A scoring system was used to assess the level of satisfaction of the physicians. We used an additive method to calculate the overall scored responses, which included the percentage of physicians who were satisfied with a particular factor, based on listed criteria that belonged to each domain.

Internal consistency was used to validate and verify the reliability of the participants’ responses. We asked correlated questions, such as “Do you have problems with biomedical services?” and “How satisfied are you with biomedical services?” Cross tabulation was performed to test the reliability of the responses, which was 94.4%.

Agreement to fill the questionnaire was taken as consent. Collected information was kept confidential and used only for the purpose of this research. The study was approved by the ethics committees of KAUH, KFSH and RC, and the Directorate of Health Affairs in Jeddah.

RESULTS

One hundred and three questionnaires were either distributed or forwarded via E-mail: 77 and 26 questionnaires were sent to MOH and non-MOH physicians, respectively. Seventy MOH (91%) and 25 non-MOH (96.2%) physicians participated in the survey, representing an overall response rate of 92.2%.

The mean (SD) age of the physicians was 39.8 (7.3) years (range, 24–57 years; median, 40 years). Females constituted more than half of the sample, giving a female:male ratio of 2.6:1 [Table 1]. Most physicians earned >30,000 Saudi Riyals (SR); however, a larger proportion of family physicians in the non-MOH sector earned higher salaries than MOH family physicians [$P = 0.039$; Figure 1].

The mean length of service in our sample was 10.5 ± 6.6 years (range, 1.0–25.0 years; median, 9.5). Physicians had on average 5.8 ± 2.8 clinics/week (range,

Table 1: Demographic characteristics of the physicians (n=95)

Characteristics	Frequency N (%)
Sector	
MOH	73 (76.8)
Other	22 (23.2)
Total ^a	95 (100.0)
Gender	
Men	25 (28.1)
Women	64 (71.9)
Total ^a	89 (100.0)
Nationality	
Saudi	75 (84.3)
Non-Saudi	14 (15.7)
Total ^a	89 (100.0)
Monthly salary	
15,000 to <20,000	21 (23.6)
20,000 to <25,000	6 (6.7)
25,000 to <30,000	19 (21.3)
>30,000	43 (48.3)
Total ^a	89 (100.0)

^aThis represents the total for which data was available. MOH: Ministry of Health

2–10; median, 5) and saw about 22.3 ± 10.7 patients/day (range, 3–55; median, 20 patients/day).

As shown in Table 2, MOH family physicians were more likely to report a lack of laboratory technicians ($P = 0.157$), unavailability of radiology technicians ($P = 0.011$) and radiologists ($P < 0.001$), and shortage of nurses ($P = 0.490$).

Difficulty with transportation was cited as one of the main obstacles encountered by physicians; four MOH and two non-MOH family physicians reported using taxis to get to work. Lack of an electronic medical records system ($P < 0.001$) and the lack of internet and computer access ($P < 0.001$) were great sources of dissatisfaction among MOH physicians. More MOH family physicians reported the loss of papers from patients' medical records than did non-MOH family physicians ($P = 0.096$) [Table 3]. Regarding the work environment, only 34.4% of MOH physicians felt safe at the work place as against 76.9% of non-MOH physicians ($P = 0.012$). In addition, a significant proportion of MOH family physicians reported the unavailability of a cafeteria ($P < 0.001$) and poor building maintenance ($P < 0.001$).

MOH family physicians were also more likely to report unavailability of laboratory services ($P = 0.004$), reagents ($P = 0.001$), X-ray equipment ($P = 0.027$), ultrasound equipment ($P < 0.001$) and insufficient laboratory tests [$P = 0.0001$; Table 4]. On the other hand, the unavailability of immunization services was more commonly reported by non-MOH family

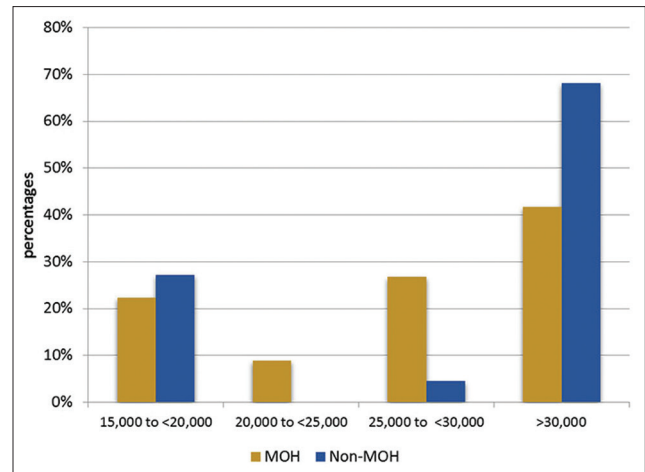


Figure 1: Salary comparison between Ministry of Health and non-Ministry of Health family physicians

doctors ($P = 0.013$). There was no difference between MOH and non-MOH physicians regarding the unavailability of drugs [$P = 0.164$; Table 4].

In general, MOH family physicians had lower satisfaction scores than their non-MOH colleagues (54.7 ± 17.7 as against 66.3 ± 6.7 for non-MOH physicians; $P < 0.001$). Table 5 shows that the mean satisfaction scores were significantly lower for MOH family physicians regarding laboratory ($P = 0.032$), radiology ($P < 0.001$) and medical records services ($P < 0.001$), building maintenance ($P = 0.002$), as well as clinics ($P < 0.001$). Similarly, MOH physicians were significantly less satisfied with their jobs ($P = 0.032$) and working environments ($P = 0.003$).

DISCUSSION

The MOH in the Kingdom of Saudi Arabia adopted community-based health care through PHC centers as a means of making good quality health services accessible.^[5] The provision of good quality health services, however, requires infrastructure, such as human resources, diagnostic and therapeutic facilities, and good transportation, including cars and ambulances.^[8] As with many nations, the Kingdom of Saudi Arabia is seeking to promote the development of a comprehensive PHC strategy, and restructure its existing health care system in order to improve the quality of services provided to its citizens. Unfortunately, health care professionals continue to be confronted by considerable impediments.^[7]

Although the organization of primary care services in Saudi Arabia has improved in recent years, as shown by the number of staff present in most PHC centers, studies point to several organizational obstacles, including

Table 2: Difficulties related to transportation and staff

Difficulties	MOH (n=67) N (%)	Non-MOH (n=22) N (%)	Total* N (%)	P-value
Driver unavailability				
Yes	23 (34.3)	10 (45.5)	33 (37.1)	0.642
No	25 (37.3)	7 (31.8)	32 (36.0)	
Sometimes	19 (28.4)	5 (22.7)	24 (27.0)	
Transportation difficulties*				
Yes	24 (35.8)	9 (42.9)	33 (37.5)	0.482
No	21 (32.8)	4 (19.0)	29 (33.0)	
Sometimes	22 (32.8)	4 (19.0)	26 (29.5)	
Availability of laboratory technicians				
Yes	57 (85.1)	22 (100.0)	79 (88.8)	0.157
No	1 (1.5)	0 (0.0)	1 (1.1)	
Sometimes	9 (13.4)	0 (0.0)	9 (10.1)	
Availability of a radiology technician				
Yes	46 (68.7)	22 (100.0)	68 (76.4)	0.011
No	16 (23.9)	0 (0.0)	16 (18.0)	
Sometimes	5 (7.5)	0 (0.0)	5 (5.6)	
Availability of a radiologist				
Yes	7 (10.4)	19 (86.4)	26 (29.2)	<0.001
No	58 (86.6)	3 (13.6)	61 (68.5)	
Sometimes	2 (3.0)	0 (0.0)	2 (2.2)	
Availability of a pharmacist				
Yes	63 (21)	21 (95.5)	84 (94.4)	0.847
No	3 (4.5)	1 (4.5)	4 (4.5)	
Sometimes	1 (1.5)	0 (0.0)	1 (1.1)	
Shortage of nurses				
Yes	22 (32.8)	9 (40.9)	31 (34.8)	0.490
No	45 (67.2)	13 (59.1)	58 (65.2)	

*Total is <95 owing to missing responses. MOH: Ministry of Health; Non-MOH: King Abdulaziz University Hospital (KAUH), and King Faisal Specialist Hospital and Research Center (KFSH&RC)

Table 3: Difficulties related to infrastructure and work environment

Difficulties	MOH (n=67) N (%)	Non-MOH (n=22) N (%)	Total* N (%)	P-value
Missing patient files				
Yes	39 (58.2)	7 (31.8)	46 (51.7)	0.096
No	12 (17.9)	7 (31.8)	19 (21.3)	
Sometimes	16 (23.9)	8 (36.4)	24 (27.0)	
Availability of electronic medical records system				
Yes	2 (3.0)	16 (72.7)	18 (20.2)	<0.001
No	65 (97.0)	6 (27.3)	71 (79.8)	
Poor building maintenance				
Yes	55 (82.1)	8 (36.4)	63 (70.8)	<0.001
No	5 (7.5)	9 (40.9)	14 (15.7)	
Sometimes	7 (10.4)	5 (22.7)	12 (13.5)	
Poor biomedical services				
Yes	50 (74.6)	3 (13.6)	53 (59.6)	<0.001
No	17 (25.4)	19 (86.4)	36 (40.4)	
Availability of library				
Yes	9 (13.4)	17 (77.3)	26 (29.2)	<0.001
No	58 (86.6)	5 (22.7)	63 (70.8)	
Availability of internet connection				
Yes	13 (19.4)	19 (86.4)	32 (36.0)	<0.001
No	54 (80.6)	3 (13.6)	57 (64.0)	

Contd...

Table 3 (cont'd): Difficulties related to infrastructure and work environment

Difficulties	MOH (n=67) N (%)	Non-MOH (n=22) N (%)	Total* N (%)	P-value
Availability of staff toilets				
Yes	33 (49.2)	14 (63.6)	47 (52.8)	0.228
No	34 (50.7)	8 (36.4)	42 (47.2)	
Availability of a cafeteria				
Yes	6 (8.9)	16 (72.7)	22 (24.7)	<0.001
No	61 (91.0)	6 (27.3)	67 (75.3)	
Satisfied with managers				
Yes	35 (52.2)	12 (54.5)	47 (52.8)	0.524
No	32 (47.8)	10 (45.5)	42 (47.2)	
Satisfied with colleagues				
Yes	41 (61.2)	16 (72.7)	57 (64.0)	0.237
No	26 (38.8)	6 (27.3)	32 (36.0)	

*Total is <95 owing to missing responses. MOH: Ministry of Health; Non-MOH: King Abdulaziz University Hospital (KAUH), and King Faisal Specialist Hospital and Research Center (KFSH&RC)

Table 4: Difficulties related to diagnostic, immunization, and pharmacy services

Difficulties	MOH (n=67) N (%)	Non-MOH (n=22) N (%)	Total* N (%)	P-value
Availability of laboratory services				
Yes	38 (56.7)	21 (95.5)	59 (66.3)	0.004
No	3 (4.5)	0 (0.0)	3 (3.4)	
Sometimes	26 (38.8)	1 (4.5)	27 (30.3)	
Availability of reagents				
Yes	14 (20.9)	14 (63.6)	28 (31.5)	0.001
No	10 (14.9)	1 (4.5)	11 (12.4)	
Sometimes	43 (64.2)	7 (31.8)	50 (56.2)	
Sufficient laboratory tests				
Yes	18 (26.9)	21 (95.5)	39 (43.8)	0.0001
No	49 (73.1)	1 (4.5)	50 (56.2)	
Problems receiving results from reference laboratory				
Yes	17 (25.4)	0 (0.0)	17 (19.1)	<0.001
No	18 (26.9)	17 (77.3)	35 (39.3)	
Sometimes	32 (47.8)	5 (22.7)	37 (41.6)	
Availability of X-ray equipment				
Yes	49 (73.1)	21 (95.5)	70 (78.7)	0.027
No	18 (26.9)	1 (4.5)	19 (21.3)	
Availability of ultrasound equipment				
Yes	34 (50.7)	21 (95.5)	55 (61.8)	<0.001
No	33 (49.3)	1 (4.5)	34 (38.2)	
Problems receiving radiology reports from referral facility				
Yes	35 (52.2)	3 (13.6)	38 (42.7)	<0.001
No	12 (17.9)	13 (59.1)	25 (28.1)	
Sometimes	20 (29.9)	6 (27.3)	26 (29.2)	
Availability of immunization services				
Yes	67 (100.0)	20 (90.9)	87 (97.8)	0.013
No	0 (0.0)	2 (9.1)	2 (2.2)	
Availability of drugs*				
Yes	52 (78.8)	13 (59.1)	65 (73.9)	0.164
No	2 (3.0)	2 (9.1)	4 (4.5)	
Sometimes	12 (18.2)	7 (31.8)	19 (21.6)	

*Total is <95 owing to missing responses. MOH: Ministry of Health; Non-MOH: King Abdulaziz University Hospital (KAUH), and King Faisal Specialist Hospital and Research Center (KFSH&RC)

Table 5: Comparison of satisfaction score between MOH and Non-MOH family physicians

Variables	Satisfaction Score		P-value
	MOH Mean/SD	Non-MOH Mean/SD	
Laboratory	60.9/22.3	71.6/12.9	0.032
Radiology	54.7/27.2	83.7/10.1	<0.001
Medication and pharmacy	69.3/30.5	71.0/25.4	0.816
Clinics	61.3/28.1	90.5/21.4	<0.001
Medical records	30.1/22.4	52.2/26.1	<0.001
Building maintenance	48.1/18.2	61.9/15.7	0.002
Biomedical services	53.8/24.9	47.7/21.4	0.306
Job	55.7/23.6	67.3/15.5	0.032
Working hours	56.9/25.3	66.7/18.5	0.095
Working environment	57.4/21.8	72.6/12.6	0.003
Professional opportunities	66.0/22.9	70.0/14.2	0.444

MOH: Ministry of Health; Non-MOH: King Abdulaziz University Hospital (KAUH), and King Faisal Specialist Hospital and Research Center (KFSH&RC); SD: Standard deviation

staff turnover, stressful work conditions, overworked physicians, and shortage of resources.^[5] In the current study, difficulties related to staff, inadequate infrastructure and services were common issues that family physicians at MOH PHC centers faced. Similar findings were reported among primary care physicians in studies conducted abroad.^[9,10]

Transportation difficulties featured as an important problem, which may be because most of the physicians in our study were women, and women are prohibited from driving in Saudi Arabia. These difficulties were mainly because of the unavailability of drivers, whom female physicians had to rely on to go to work. These and other difficulties mentioned earlier may be the result of the lack of resources, which seem to impede the achievement of quality primary care in Saudi Arabia.^[5] The only area in which MOH family physicians reported 100% satisfaction as compared with their colleagues at non-MOH facilities was immunization services. This reflects the success that Saudi government has had in making immunization easily accessible in the primary care setting.

Reports suggest that the electronic medical records systems has provided the advantage of improving the quality of health care,^[11,12] decreasing the time spent on paperwork,^[13] and increasing patient satisfaction.^[14] In a study that explored the aspects of electronic medical record systems that contribute to user satisfaction, Joos *et al.*^[15] found that most of the clinicians in their study either agreed or strongly agreed that the use of an electronic medical records system resulted in effective gains relative to the former setting with computer-retrievable laboratory results. Our finding that the lack of access to the internet and computers was more common among MOH family physicians is consistent

with that of other authors who reported that only 10.6% of PHC physicians in Riyadh had access to the internet.^[16] These difficulties translated into lower job satisfaction scores among MOH family physicians.

The main strength of our study is the high response rate, which reflects the willingness of family physicians to report the problems they have. Nonetheless, all non-MOH family physicians in this study were recruited from two main hospitals in Jeddah. This may have introduced some bias in the analysis.

CONCLUSION

The results of our study demonstrate that family physicians who worked at MOH PHC centers encountered more problems than their counterparts in non-MOH health facilities. These difficulties affect the level of satisfaction of MOH family physicians, as their lower mean satisfaction scores show. It may also have implications for the quality of health care services and workforce recruitment in PHC settings. Thus, we recommend that health care administrators should make every effort to diminish difficulties faced by primary care physicians by providing the essential facilities and investing in capital structures, as these might improve physician satisfaction.

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Conflicts of interest

There are no conflicts of interest.

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