

# Does it Rain after the Storm? Family medicine resident's reflection at Qatar: Results From a cross sectional study

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## Abstract

The literature is enriched with evidence that the Covid-19 crisis led to negative impacts such as disruption of economy, health/social impacts, and financial difficulties. Our purpose is to investigate how the family medicine department move can beyond crisis recovery, develop resilience and what the family medicine residents learnt from the crisis and if they have had any negative or positive consequences that we can shed light on. Therefore, we developed a survey-based questionnaire to understand how our residents got actively or passively impacted, so thus the family medicine program can provide insightful bi-directional support for the trainees. Gain from a crisis was not expected. However, results from this survey showed that family medicine residents benefited from their experience as front-line staff managing patients during the covid-19 pandemic mostly in social, behavioral and skills aspects and to a minor degree in the professional aspect. On the other hand, the family medicine educational aspect was negatively impacted.

**Key words:** Covid-19, implications, family medicine Residents, QATAR

## Introduction

Family medicine residency program in Qatar has been an accredited ACGME-I program since 2013. During the COVID crisis in Qatar, which started at the end February 2020 the ACGME/ACGME-I has granted significant flexibility to allow our residents to meet increased clinical demands created by the pandemic(1). Over several months of very heavy pressure on the health care systems with additional patients who must be cared for, family medicine residents took the initial steps in the front lines providing the best appropriate care for their patients. Their work was highly noticeable and their flexibility, and ability to face the uncertainty and ambiguity enabled most of them to lead their teams in the quarantines which were requiring significant trainee redeployment (2).

There is no universally valid reflection(3) giving our residents the space to express their own experience and how it affects them socially, mentally and professionally. We will be reflecting on what is their vision of personal development. This will consequently enhance knowledge and practical experience in residents' training. Their responses to the survey below varied in behavioural, psychosocial, professional, and physical benefits as well as self-awareness. It was noticed that one of them quit smoking while the other mentioned that he (has grown up) and become independent. Some of them mentioned the value of team work and others highlighted their leadership experience.

Covid-19 pandemic can provide opportunities for knowledge and sustainable development. From the family medicine residents' perspective while responding to the most urgent needs as a front-line staff facing the unpredictable pandemic, they took advantage of all opportunities for change to achieve the desired goals and sustainable recovery with the efficient use of the best available resources (4).

The Program has had the opportunity to describe how this crisis affected enrolled trainees and the resident's point of view has been highlighted via an anonymous survey(2).

## Results

Table 1: demographic data distribution of studied group

		N	%
PGY	1	11	22.4
	2	12	24.5
	3	12	24.5
	4	14	28.6
Sex	Male	19	38.8
	Female	30	61.2
Marital	Single	17	34.7
	Married	31	63.3
	Divorced	1	2.0
Nationality	Non Qatari	45	91.8
	Qatari	4	8.2
Direct contact with Covid 19	No	8	16.3
	Yes	41	83.7
	Total	49	100.0

Females were the majority with 61.2% and also married were the majority (63.3%); regarding nationality non Qataris were the majority with 91.8% and 83.7% deal directly with Covid-19 patients.

Table 2: distribution of impact on quality of life parameters

		N	%
Social	Negative impact	12	24.5
	Positive impact	37	75.5
Behavior	Negative impact	10	20.4
	Positive impact	39	79.6
Professional	Negative impact	23	46.9
	Positive impact	26	53.1
Educational	Negative impact	26	53.1
	Positive impact	23	46.9
Skill	Negative impact	8	16.3
	Positive impact	41	83.7
	Total	49	100.0

Highest negative impact was in educational sector, then Professional

Graph 1

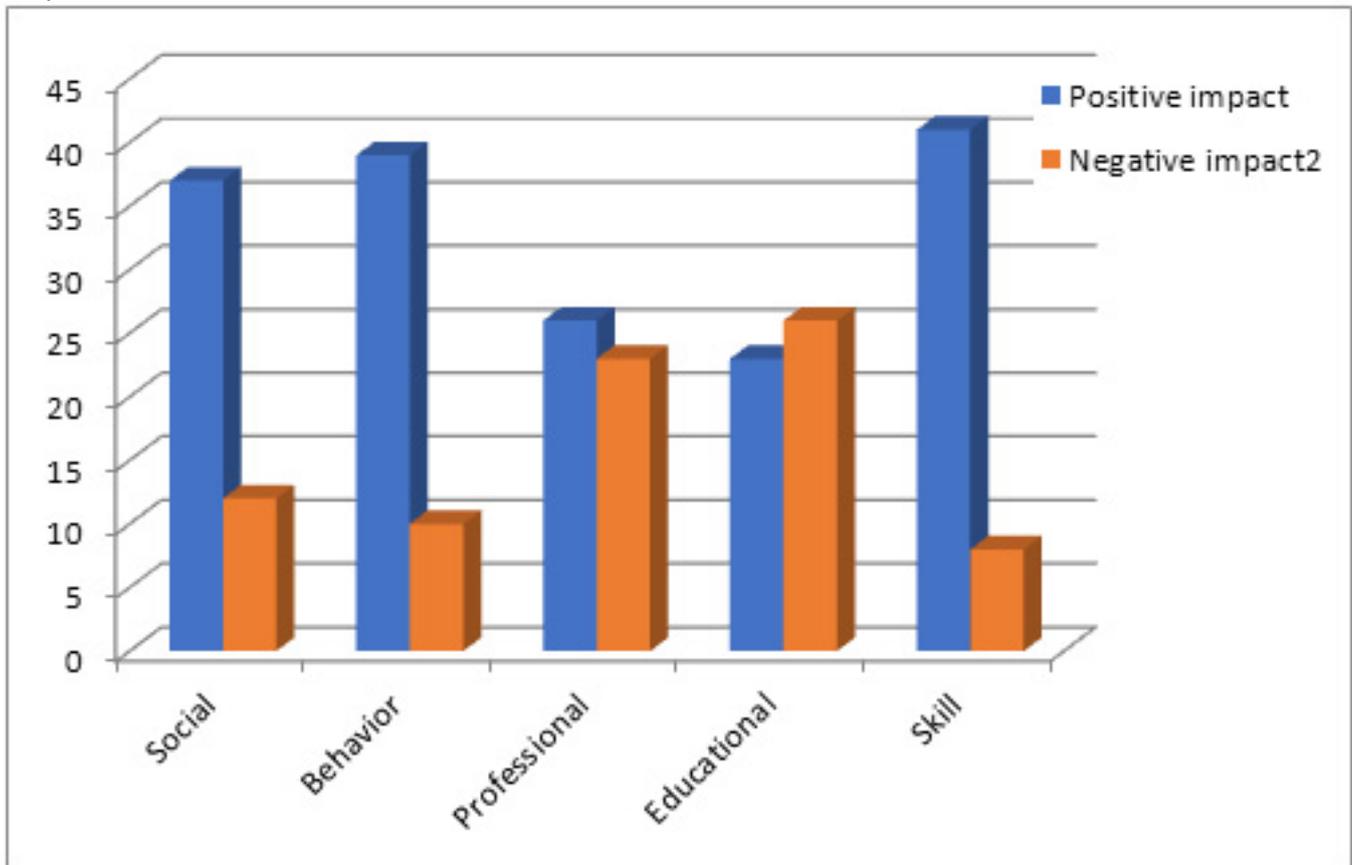


Table 3: Relation with social impact

			Social		X <sup>2</sup>	P
			Negative	Positive		
PGY	1	N	5	6	4.38	0.22
		%	45.5%	54.5%		
	2	N	1	11		
		%	8.3%	91.7%		
	3	N	3	9		
		%	25.0%	75.0%		
	4	N	3	11		
		%	21.4%	78.6%		
Sex	Male	N	4	15	0.198	0.65
		%	21.1%	78.9%		
	Female	N	8	22		
		%	26.7%	73.3%		
Marital	Single	N	4	13	3.15	0.207
		%	23.5%	76.5%		
	Married	N	7	24		
		%	22.6%	77.4%		
	Divorced	N	1	0		
		%	100.0%	0.0%		
Nationality	Non Qatari	N	10	35	1.53	0.21
		%	22.2%	77.8%		
	Qatari	N	2	2		
		%	50.0%	50.0%		
Direct contact	No	N	1	7	0.74	0.38
		%	12.5%	87.5%		
	Yes	N	11	30		
		%	26.8%	73.2%		
Total		N	12	37		
		%	24.5%	75.5%		

No significant difference or association

**Table 4: Relation with Behaviour impact**

			Behaviour		X <sup>2</sup>	P
			Negative	Positive		
PGY	1	N	3	8	0.53	0.91
		%	27.3%	72.7%		
	2	N	2	10		
		%	16.7%	83.3%		
	3	N	2	10		
		%	16.7%	83.3%		
	4	N	3	11		
		%	21.4%	78.6%		
Sex	Male	N	3	16	0.408	0.52
		%	15.8%	84.2%		
	Female	N	7	23		
		%	23.3%	76.7%		
Marital	Single	N	2	15	4.77	0.092
		%	11.8%	88.2%		
	Married	N	7	24		
		%	22.6%	77.4%		
	Divorced	N	1	0		
		%	100.0%	0.0%		
Nationality	Non Qatari	N	9	36	0.057	0.81
		%	20.0%	80.0%		
	Qatari	N	1	3		
		%	25.0%	75.0%		
Direct contact	No	N	1	7	0.36	0.54
		%	12.5%	87.5%		
	Yes	N	9	32		
		%	22.0%	78.0%		
Total		N	10	39		
		%	20.4%	79.6%		

No significant difference or association

Table 5: Relation with Professional impact

			Professional		X <sup>2</sup>	P
			Negative	Positive		
PGY	1	N	5	6		0.43
		%	45.5%	54.5%		
	2	N	5	7		
		%	41.7%	58.3%		
	3	N	8	4	2.72	
		%	66.7%	33.3%		
	4	N	5	9		
		%	35.7%	64.3%		
Sex	Male	N	8	11		0.59
		%	42.1%	57.9%		
	Female	N	15	15	0.29	
		%	50.0%	50.0%		
Marital	Single	N	8	9		0.55
		%	47.1%	52.9%		
	Married	N	14	17	1.17	
		%	45.2%	54.8%		
	Divorced	N	1	0		
		%	100.0%	0.0%		
Nationality	Non Qatari	N	22	23		0.35
		%	48.9%	51.1%		
	Qatari	N	1	3	0.84	
		%	25.0%	75.0%		
Direct contact	No	N	3	5		0.55
		%	37.5%	62.5%		
	Yes	N	20	21	0.34	
		%	48.8%	51.2%		
Total		N	23	26		
		%	46.9%	53.1%		

No significant difference or association

**Table 6: Relation with educational impact**

			Educational		X <sup>2</sup>	P
			Negative	Positive		
PGY	1	N	4	7	6.13	0.105
		%	36.4%	63.6%		
	2	N	9	3		
		%	75.0%	25.0%		
	3	N	8	4		
		%	66.7%	33.3%		
	4	N	5	9		
		%	35.7%	64.3%		
Sex	Male	N	9	10	0.404	0.52
		%	47.4%	52.6%		
	Female	N	17	13		
		%	56.7%	43.3%		
Marital	Single	N	9	8	0.91	0.63
		%	52.9%	47.1%		
	Married	N	16	15		
		%	51.6%	48.4%		
	Divorced	N	1	0		
		%	100.0%	0.0%		
Nationality	Non Qatari	N	24	21	0.016	0.89
		%	53.3%	46.7%		
	Qatari	N	2	2		
		%	50.0%	50.0%		
Direct contact	No	N	4	4	0.036	0.85
		%	50.0%	50.0%		
	Yes	N	22	19		
		%	53.7%	46.3%		
Total		N	26	23		
		%	53.1%	46.9%		

No significant difference or association

Table 7: Relation with Skill impact

			Skill		X <sup>2</sup>	P
			Negative	Positive		
PGY	1	N	2	9	1.29	0.73
		%	18.2%	81.8%		
	2	N	3	9		
		%	25.0%	75.0%		
	3	N	1	11		
		%	8.3%	91.7%		
	4	N	2	12		
		%	14.3%	85.7%		
Sex	Male	N	1	18	2.78	0.095
		%	5.3%	94.7%		
	Female	N	7	23		
		%	23.3%	76.7%		
Marital	Single	N	2	15	0.66	0.71
		%	11.8%	88.2%		
	Married	N	6	25		
		%	19.4%	80.6%		
	Divorced	N	0	1		
		%	0.0%	100.0%		
Nationality	Non Qatari	N	8	37	0.85	0.35
		%	17.8%	82.2%		
	Qatari	N	0	4		
		%	0.0%	100.0%		
Direct contact	No	N	6	2	24.09	0.00**
		%	75.0%	25.0%		
	Yes	N	2	39		
		%	4.9%	95.1%		
Total		N	8	41		
		%	16.3%	83.7%		

No significant difference or association except that direct contact with Covid-19 significantly associated with gaining of skills

A chi-squared test was conducted to determine whether there are statistically significant differences between the expected Frequencies and the observed frequencies in one or more categories such as distribution of impact of Covid -19 experience on quality of life parameters such as educational, professional, social, behavioural and needed skills in relation to different patches of family medicine residents in Qatar (PGY1, PGY2, PGY3 and PGY4). Of the 49 family medicine residents with 100% response rate (Table 1) females were the majority with 61.2% and the married residents were a majority as well of 63.3%, regarding nationality non Qataris were the majority with 91.8% and 83.7% of family medicine residents dealing directly with Covid -19 patients. As shown in Table 2 and Graph 1: distribution of impact on quality of life parameters, highest negative impact was in educational sector then Professional. Positive impact was remarkable in skills, behavioural and social categories respectively. In Table 3 Relation with social impact revealed that PGY2 obtained much social benefit with 91.7%, followed by PGY4 and PGY3 of 78.6% and 75% consequently, however PGY1 showed only 54.5% which could be due to less experience and flexibility. Males scored social benefits of 78.9% followed by females of 73.3%. In Table 4 in regard to relation with behavioural impact was equally in PGY2 and PGY3 of 83.3% followed by PGY4 of 78.6% and again PGY1 was the lowest ratio of 72.7%. In Table 5 which was discussing the relation with professional impact PGY4 led the ratio by 63.3% followed by PGY2 and PGY1 of 58.3% and 54.5% respectively and the least ratio was for PGY3 of 33.3%. in Table 6. Discussing the relation with educational impact it showed that PGY4 and PGY1 residents were almost similar with ratios of 64.3% of PGY4 and 63.6% for PGY1, however PGY3 and PGY2 obtained only 33.3% and 25% respectively. In Table 7 regarding the relation with skills

impact, it was clear that PGY3 residents were in the front with a ratio of 91.7%, PGY4 and PGY1 were in the same band of 85.7% and 81.8% consequently, however the last rank was for PGY2 residents with 75% denoting No significant difference or association except that direct contact with Covid-19 was significantly associated with gaining of skills.

## Discussion

The Covid-19 pandemic has had impacts on the usual used method in teaching family medicine residents. Being flexible in facing the ambiguity of the pandemic as front-line staff was the main issue discussed and recommended by ACGME-I to overcome the situation (2).

In other studies done during the time of Covid-19 on reflections on different subspecialties such as emergency medicine, surgery residents in facing the COVID -19 along with another study on chief medical residents from an internal medicine program as a leader for the residents and many studies from different countries' perspectives discussed the uncertain world in Wuhan, Turkey and Singapore, additionally there was a study discussing how to restructure residents' education during the Covid pandemic. All those studies showed that even in the most developed countries, residents facing Covid-19 can be quickly exhausted in the event of a rapid increase in the number of infections. In many countries the faculty had transformed the academic day lectures into online format. Using the technology to maintain the education was a solution however the technical difficulties, hectic schedule and the new educational method during the pandemic had affected the knowledge domain. Additionally, residents' training rotations were also affected due to reduction of patient volume in hospitals with pandemic progression due to fear or being infected along with deploying the residents in quarantine and COVID -19 screening units due to increased demands of health care personnel(6,7,8,9,10,11). Our study is quite a similar situation to the previously mentioned studies as it was obviously seen in our survey results (Table 2). The highest negative impact was in the educational domain then the Professional sector by 53.1%, and 46.9% respectively. Since the start of the COVID situation the Continuity care clinics and academic day lectures have been suspended which has affected their training in terms of missing important lectures and the reduced chance to interact more with their assigned supervisors as they used to do during the educational activities. It has reduced their usual patient numbers and ACGME rotations requirements have fallen behind from the resident point of view. They have been out of their usual practice for long period; others mentioned that due to work overload there was not enough time to gain knowledge related to residency.

On the contrary, direct contact with Covid 19 was significantly associated with gaining of medical, Telemedicine and communication skills in 49 residents: 41 were positively impacted in a ratio of 83.7% and 8 residents noticed that their medical skills have been

negatively affected due to the Covid pandemic at a ratio of 16.3% of our residents. Some of them labeled the situation as 'It is a once in a life time experience getting to participate in this national emergency' and being part of a bigger picture certainly added great value and experience for them. It was a reminder that a pandemic can erupt any minute and that in our profession we should always be ready and mentally prepared in terms of flexibility and resilience, having a wide range of patients in terms of demographics, comorbidities, and disease severity. Working side by side with colleagues and consultants from other specialties, changing protocols on a daily basis made them more flexible for change. This interaction broadened their medical knowledge and boosted their confidence level.

Additionally, they appreciate gaining more in communication skills, especially when reassuring anxious patients newly diagnosed, and how to explain the disease in a simple and scientific way; ECG and Chest X-ray interpretation; management of uncontrolled complicated cases in association with their Covid-19 infection; learning proper donning and doffing measures and infection control precautions. Other values included teamwork, getting in touch with doctors from other specialties, crisis management strategies along with participation in raising community awareness.

**Socially**, in our experience, it was noticed that one of them quit smoking while another mentioned that he (has grown up) and become independent. Some of them mentioned the value of team work and others highlighted the leadership experience and decision-making capacity. In their words, they learned to cooperate, collaborate, and listen to each other carefully. They learned to deal with high responsibility empathetic attitude facing the stressful situation and to be proactive in ambiguous circumstances along with staying compassionate to themselves, their colleagues and their families as 'at the end we are all having a tough time with all the unpredictable changes happening'. Some of them learned organization skills and time management. Others explored their ability in performing tasks like driving safely for 90km every day. One female doctor labeled herself as a stronger woman than what she thought. There are no similar studies done regarding the social aspect implications for comparison.

### Behavioral aspect

The pandemic has brought major stress. Residents' psychological knowledge and the motivational theory of coping with stress and its implications on physical, mental health and support was an issue during the pandemic according to Singapore residency programs. All residents reported lower perceived stress and stigma compared to base line. "Our family medicine residents reflected upon that by saying that they learnt: management of conflicts and stress coping techniques and became "initiative" and proactive in seeking advice/help from consultants and other specialties when not sure or lacking the knowledge' and to adapt to different situations.

## Conclusion

Family medicine residents' responses to this survey varied in behavioural, psychosocial, professional, physical benefits as well as self-awareness. They acknowledged taking part in facing the pandemic as a front-line health care provider. It was a beneficial life time experience for them. They have learned how to deal with pandemics and to adapt to different situations. Survey results concluded that family medicine residents benefited from their experience mostly in social, behavioral and skills domains and to a minor degree in professional aspect. On the other hand, the family medicine educational aspect was negatively impacted.

They proactively identified and abandoned residents who might be at a higher risk of pandemic physical and psychological sequelae due to their physical health status; suffering of burnout could be one of the contributing factors of gaining such a great positive implication.

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