

Assessment of Family Function of Academic Physicians

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Abstract

Background: A balance between Work and family is required to maintain a stable professional and personal life. It is necessary for well-being, job satisfaction, and productivity; Academic physicians' family function usually affected by multiple responsibilities at work. **Aim:** To assess the family function of the academic staff and to identify the risk factors of family dysfunction. **Subjects and Methods:** A Cross-sectional descriptive study on 277 academic physicians from different specialties working at the faculty of medicine, Suez Canal University, Ismailia, Egypt, participated in an online anonymous questionnaire assessing sociodemographic characteristics, work duties, and family function using APGAR score. **Results:** Mean age of participants was 38.38 years; Females represented 60.6%. Seventy-two percent of the medical staff had severe family dysfunction, 21% had moderate family dysfunction and only 7% of them were highly functional. There was a statistically significant relation between family dysfunction and age, gender, marital status, having children, job title, and the number of working hours per week. **Conclusion:** This study showed that most of the academic physicians were suffering from severe family dysfunction. Further studies about work stress in faculties of medicine in Egypt and its impact on family function are needed for further assessment and improvement.

Key words: APGAR score; Doctors; Family dysfunction

Introduction

Academic physicians have several roles, the most important is the managerial functions including planning, implementing an educational plan and evaluating the educational process not only the progress and achievements of the stu-

dents, but also academic physicians are responsible about providing important information towards modification and improvement of the learning process⁽¹⁾. The emphasis of family medicine on the value of the family relies on sufficient understanding of the biopsychosocial approach⁽²⁾ Family is considered the most

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important aspect of patients' social environments and resource that supports family member to function⁽³⁾. Families have a powerful impact on health similar to traditional medical risk factors⁽⁴⁾. The social support inherent in a set family functionality allows for the reduction of vulnerability to stressful events⁽⁵⁾. The medical profession is characterized by an intense and high work commitment. Physicians working in clinics have often reported facing a high workload, low autonomy, and job control. In addition, physicians often report that the time of residency coincides with the family. Young physicians are more likely to have young children, and consequently experience high family or parenting demands, resulting in high levels of work family conflicts. This has been found to be significantly associated with physicians' job workload⁽⁶⁾. Doctors are achievers, they have a certain standing in society as professional people who have had to pass endless examinations and endure years of higher training. This can place considerable stress on their children⁽⁷⁾. Family function is an important aspect of academic physicians' wellbeing. They provide health care, teaching, and researching duties. Some also work in managerial activities and has a private work beside familial responsibilities which increase stresses and expose them to burnout. The family function assessment is not studied previously between doctors working in faculties of medicine in Egypt. This research is an attempt to show the importance of this topic on the Egyptian academic physicians and their families.

Subjects and Methods

Faculty of medicine, Suez Canal University, Ismailia, Egypt, is a governmental institution. According to the last staff record of 2020 there is a total of 1315

academic staff, 138 Emeritus Professor, 126 Professor, 160 Assistant Professor, 436 lecturer, 350 Assistant Lecturer, and 105 Demonstrator. According to the sample size, 270 participants should be responding to the questionnaire. Participants in this study were recruited from the academic medical staff by using an online Google Forms questionnaire during the curfew of COVID-19 epidemic. A total of 277 participants responded to the questionnaire in the period from January to March 2020. The questionnaire was anonymous and consisted of two parts, The first part was for collecting the sociodemographic and work data (age, gender, marital status, number of children, job title, department (academic or clinical), weekly working hours, distance from work place, any co-morbidities). The second part allowed us to assess family function through APGAR score scale of Smilkstein (1978). The APGAR questionnaire consisted of five easy and quick questions; with three possible answers ("almost always", "sometimes", and "hardly ever"). The score varies between (2, 1, and 0) points consequently. Families can be stratified as a functional family when the total score (8-10), or dysfunctional family when the total score (<8). A dysfunctional family can still be categorized as moderate (4 -7) and severely dysfunctional (0- 3). The acronym APGAR means: A) Adaptability - sharing of resources, and satisfaction with the attention received. P) Participation: family communication to solve a problem and making decision. G) Growth: emotional growth and the flexibility within the family to change roles. A) Affection: satisfaction with the intimacy between family members, and the family interactions. R) Resolution: sharing time, space, and money.

Statistical Analysis

Data were analyzed using SPSS software package version 26. Quantitative data were described as mean and standard deviation (SD). Qualitative data were expressed as frequencies (n) and

percentages (%). Chi-square and Fisher's exact tests were used to determine the association between qualitative variables, and a p-value ≤ 0.05 was considered significant.

Table 1: Frequency distribution of the studied population according to their Sociodemographic and work characteristics (N=277)			
Socio-demographic and work characteristics		N	%
Gender	Male	109	39.4
	Female	168	60.6
Age	Mean \pm SD	38.38 (10.061)	
	Range	27 - 70	
Marital status	Single	132	47.7
	Married	123	44.4
	Divorced	10	3.6
	Widowed	12	4.3
Children	No	135	48.7
	Yes	142	51.3
Number of children	No children	135	48.7
	1	37	13.4
	2	74	26.7
	3	27	9.7
	4	4	1.4
Job Title	Demonstrator	10	3.6
	Assistant Lecturer	147	53.1
	Lecturer	49	17.7
	Assistant Professor	20	7.2
	Professor	37	13.4
	Full-time professor	14	5.1
Department	Academic	64	23.1
	Clinical	213	76.9
Suffering from any medical condition	No	231	83.4
	Yes	46	16.6
Is your place of work far from home	No	205	74.0
	Yes	72	26.0
Number of working hours per week	1 - 10	9	3.2
	11 - 20	53	19.1
	21 - 30	63	22.7
	31 - 40	141	50.9
	40 and over	11	4.0

Results

Sociodemographic characteristics

The number of participants was 277, from January to March 2020, with a mean age of 38.38 years; females represented (60.6%).

Almost half of the participants (47.7%) were single, 44.4% married and 51.3% of all participants had at least one offspring. About 53.1% of the Academic staff were assistant lectures, 17.7% were lecturers and 13.4% were professors. Three quarters of all participants (76.9%) were affiliated to clinical departments and 23.1% to academic

departments. Most of the studied physicians had no co-morbidities, while 16.6% had one or more medical conditions. The majority the studied physicians reported that their place of work is near the residence. Fifty percent (50.9%) of all participants worked 31 to 40 hours per week (Table 1).

Table 2. Distribution of family function/dysfunction among academic physicians (N=277)

Socio-demographic and work characteristics		Severe Dysfunction		Moderate Dysfunction		Highly Functional	
		N	%	N	%	N	%
Age	27 - 38 -	150	86.7%	17	9.8%	6	3.5%
	38 - 49 -	33	61.1%	13	24.1%	8	14.8%
	49 - ≥ 60	12	34.3%	18	51.4%	5	14.3%
	≥ 60	4	26.7%	11	73.3%	0	0.0%
Gender	Male	90	82.6%	17	15.6%	2	1.8%
	Female	109	64.9%	42	25.0%	17	10.1%
Marital status	Single	122	92.4%	6	4.5%	4	3.0%
	Married	63	51.2%	46	37.4%	14	11.4%
	Divorced	8	80.0%	1	10.0%	1	10.0%
	Widowed	6	50.0%	6	50.0%	0	0.0%
Children	No	125	92.6%	7	5.2%	3	2.2%
	Yes	74	52.1%	52	36.6%	16	11.3%
Job Title	Demonstrator	10	100.0%	0	0.0%	0	0.0%
	Assistant lecturer	134	91.2%	12	8.2%	1	0.7%
	Lecturer	28	57.1%	13	26.5%	8	16.3%
	Assistant Professor	11	55.0%	5	25.0%	4	20.0%
	Professor	12	32.4%	19	51.4%	6	16.2%
	Emeritus Professor	4	28.6%	10	71.4%	0	0.0%
Department	Academic	48	75.0%	10	15.6%	6	9.4%
	Clinical	151	70.9%	49	23.0%	13	6.1%

Family function assessment

Seventy two percent (72%) of medical staff suffered from severe family dysfunction, 21% suffered from moderate family dysfunction and only 7% of them were found to be highly functional (Figure 1). Severe family dysfunction was more frequent among younger physicians. severe dysfunction was found in 86.7% in physicians younger than 38 years of age and in 61.1% in physicians aged between 38 to 48 years old. Most of physicians aged between 49 to 59 years and

60 years or more had moderate dysfunction (51.4% and 73.3%) respectively. Among all male participants, 82.6% of them had severe family dysfunction and most of female participants suffered from severe dysfunction (64.9%). Despite of being single, married, divorced, or widowed, family APGAR score assessment revealed severe dysfunction for most of the participants. All demonstrators suffered from severe family dysfunction, On the other hand most of assistant lectures, lecturers and assistant professors

suffered from severe family dysfunction (91.2%, 57.1% and 55.0%) respectively. Moderate family dysfunction was more prevalent among professors (51.4%) and Emeritus Professor (71.4%). Seventy-five percent (75.0%) of academic departments' staff had severe family dysfunction compared to 70.9% of clinical department's staff members (Table 2). Table 3 showed that there was a statistically

significant relation between family dysfunction and other independent variables as age, gender, marital status, having children, job title, and number of working hours per week. While, no significant associations were found with other variables (department, suffering from medical conditions, and how far the place of work).

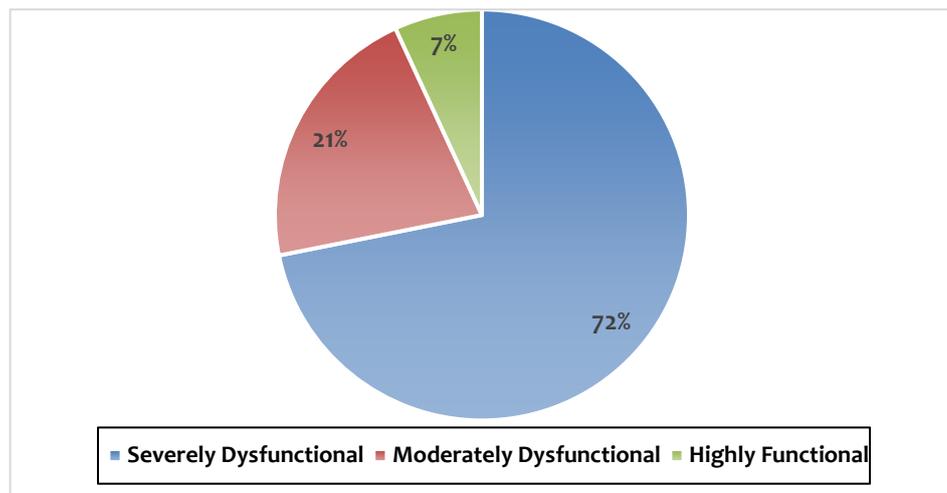


Figure 1: Prevalence of family function/dysfunction among the academic physicians

Discussion

The 277 participants had a mean age of 38.38 years, which makes normal sense as it is the normal age range of academic physicians in all our universities, the majority were females (60.6%) and this indeed represents a slightly higher female to male ratio according to the latest population survey in Egypt (2018)⁽⁸⁾. Also, about half of the participants (47.7%) were single, 44.4% married and this coincides with our latest marriage status in Egypt and 51.3% of all participants had at least one son or daughter. About a fifty-three percent (53.1%) were assistant lectures, 17.7% lecturers and 13.4% professors. Three quarters of all participants

(76.9%) were affiliated to clinical departments and 23.1% to academic. Most of the studied staff had no medical conditions, while 16.6% of them had one or more medical conditions. The majority reported that their places of work are not far from their residences. Fifty percent (50.9%) of all participants worked 31 to 40 hours per week. Seventy two percent (72%) of medical staff had severe family dysfunction, 21% had moderate family dysfunction and only 7% of them were highly functional which is comparable to data in the literature⁽⁹⁻¹¹⁾. Among all the male participants, 82.6% of them had severe family dysfunction and most of the females participates as well have severe dysfunction (64.9%) with 25% of them

with moderate dysfunction, and this goes with the studies that identified associations between job satisfaction and sociodemographic, occupational as well

as organizational factors among physicians such as gender bias, workload, number of children, job stress, and support in the workplace^(12, 13).

Table 3: Relations between medical staff characteristics and family function scores						
Medical staff characteristics		Apgar score				P-value
		Highly Functional		Moderate/Severe Dysfunctional		
		N	%	N	%	
Age (yrs.)	27 -	6	31.6%	167	64.7%	0.006^{*a}
	38 -	8	42.1%	46	17.8%	
	49 -	5	26.3%	30	11.6%	
	≥ 60	0	0.0%	15	5.8%	
Gender	Male	2	10.5%	107	41.5%	0.008[*]
	Female	17	89.5%	151	58.5%	
Marital status	Single	4	21.1%	128	49.6%	0.039^{*a}
	Married	14	73.7%	109	42.2%	
	Divorced	1	5.3%	9	3.5%	
	Widowed	0	0.0%	12	4.7%	
Number of children	No children	3	15.8%	132	51.2%	0.005^{*a}
	1	2	10.5%	35	13.6%	
	2	9	47.4%	65	25.2%	
	3	4	21.1%	23	8.9%	
	4	1	5.3%	3	1.2%	
Job Title	Demonstrator	0	0.0%	10	3.9%	0.000^{*a}
	Assistant Lecturer	1	5.3%	146	56.6%	
	Lecturer	8	42.1%	41	15.9%	
	Assistant Professor	4	21.1%	16	6.2%	
	Professor	6	31.6%	31	12.0%	
	Professor Emeritus	0	0.0%	14	5.4%	
Department	Academic	6	31.6%	58	22.5%	0.398 ^a
	Clinical	13	68.4%	200	77.5%	
Suffering from any medical condition	No	13	68.4%	218	84.5%	0.102 ^a
Yes	6	31.6%	40	15.5%		
Is the place of work far from home	No	16	84.2%	189	73.3%	0.419 ^a
	Yes	3	15.8%	69	26.7%	
Number of working hours per week	1 - 10	2	10.5%	7	2.7%	0.005^{*a}
	11 - 20	4	21.1%	49	19.0%	
	21 - 30	6	31.6%	57	22.1%	
	31 - 40	4	21.1%	137	53.1%	
	40 and over	3	15.8%	8	3.1%	

^aFisher's Exact Test; * Statistically significant at $p < 0.05$

All demonstrators suffered from severe family dysfunction, while most assistant lectures, lecturers and assistant professors also had severe family dysfunction (91.2%, 57.1% and 55.0% respectively) and this decline of severity might be attributed to the fact the workload on lessens as the academic degree improves as a part of the normal hierarchy of positions in the academic pyramid. Moderate family dysfunction was more prevalent among professors (51.4%) and Emeritus Professor (71.4%), and this enforces the previous explanation regarding workload in Egyptian universities, and this is supported by several studies measuring the effect of workload on the family and family functions^(14,16). Seventy-five percent (75.0%) of academic departments' physicians have severe family dysfunction compared to 70.9% of clinical department's physicians, and this is relatively high in both sectors, and is usually attributed to the fact that academic physicians do complex work in an increasingly demanding environment, as academic physicians are asked to fulfill three domains; teaching, research, and service, with primary emphasis placed upon the teaching, and research aspects and secondary emphasis upon service or administration, and this coincides with most of the studies focusing on this issue⁽¹⁷⁻¹⁹⁾.

Limitations, Future Studies, and Practical Implications

This study has some confines that should be cited. First, the study used a self-report measure (online questionnaire) that entails the problems of common method variance, and consistency bias, however, as referred to by Spector (2006)⁽²⁰⁾, common method variance concerns associated with heavy reliance on self-reported data measurements may be

exaggerated. Second, analyses are based on a cross-sectional design. Thus, the fundamental ordering suggested by these results requires further validation in future longitudinal study. Third, we studied here the effect of work on the family, and this was confirmed in previous studies^(15,19), but we didn't study the effect of family on work as recent studies mentioned^(21, 22), and this might be tackled in future studies. It should also be renowned that the present study may deliver some evidence for the development of interference agenda considering anticipation of burnout and therefore, deterrence of doctors' mental health and family relations worsening. This study strengthens that job characteristics should be a priority in the future research agenda. Additionally, the results propose that any intervention intended to lessen the physicians' burnout may have actual results for both men and women, and their families.

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