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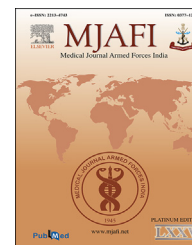
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Original Article

Physician empathy during crisis: A survey of doctors in COVID-19 pandemic (COPE study)

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ABSTRACT

Background: There is a lack of research studies on physician empathy levels towards patients, which is a critical component of providing high-quality patient-care and satisfaction. Our study aimed at assessing the physician-reported empathy levels towards patients during a crisis like the ongoing COVID-19 pandemic.

Methods: Cross-sectional online-based survey was conducted among 409 practicing doctors from varied healthcare levels during the pandemic. We used a validated Jefferson Physician's Empathy (JPE) - Health Professional (HP) version questionnaire. Empathy score was expressed as a median and interquartile range, and the analysis was done in STATA 12.1 (StataCorp LP, Texas, USA).

Results: Among the survey respondents, 55% were between 26–35 years, 56% were from the government health sector, and 57% were male doctors. Overall physicians' empathy score was 100 (89, 113). The empathy score among physicians engaged in OPD duty was significantly higher ($p = 0.022$). A total of 70.0% of physicians consulting more than 50 patients/day reported a score ≤ 105 ($p = 0.035$). Physicians aged more than 40 years (AOR = 2.545, 95% CI = 1.1133, 5.8184) and those working in government healthcare centers (AOR = 2.711, 95% CI = 1.1372, 6.4616) were about three times more likely to have a score >105 compared to younger physicians ($p = 0.027$) and private practitioners ($p = 0.024$).

Conclusion: Physician-reported empathy scores during the COVID pandemic were high. Middle-aged physicians involved in OPD consultation and those working in government healthcare recorded good scores. However, reporting lower empathy scores when the patient load increases highlights the need for administrative and medical education interventions.

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Introduction

Empathy is an important factor in doctor-patient encounters for better patient-care delivery.¹ Empathy is sharing the perspective of the patient's concern and being able to comfort the suffering patient.^{1,2} Empathy has been found to improve patient satisfaction, reduce medical errors, and provide effective pain management, and hence an important consideration for treating physicians. Empathy keeps the physician grounded in patient-care amidst the limitations and challenges of workload and documentation pressures.²

However, several factors like job satisfaction, burn-out, moral distress, economic pressures, work culture, and lack of adequate compassion and training have been attributed to low empathy levels among physicians.³ Low empathy levels and uncompassionate patient-care have been attributed to not only low patient satisfaction levels but also detrimental economic and public image consequences for physicians.³ On the contrary, high empathy levels are associated with better patient satisfaction and quality drug prescription.^{1,4}

COVID-19 has created a major impact on the healthcare delivery system at all levels.⁵ Studies have shown that empathy levels among physicians decrease with burn-out.⁶ The effect of crisis like COVID-19 pandemic on the self-reported physician empathy for patients has not been studied. Hence, this online-based cross-sectional survey was aimed at assessing the physician-reported empathy levels toward patients during the COVID-19 pandemic. The secondary objective was to determine the association between physician sympathy scores and various bio-socio demographic factors.

Materials and methods

Study design and subjects

The cross-sectional online-based survey was conducted among practicing doctors from different healthcare sectors between January 15, 2021 and March 31, 2021. The sample size was calculated using the formula $n = \left(\frac{Z_{1-\alpha/2}^2 P(1-P)}{d^2} \right)$ where n = number of physicians needed for carrying out the study, P = Empathy in physicians (50%) = 0.50, d = absolute precision (5%) = 0.05, = level of statistical significance = 0.05, and $Z_{1-\alpha/2}^2 = 1.96$.⁷ So the required sample size was 384. The study participants were practicing medical intern doctors, post-graduate medical resident doctors, and practicing medical doctors, including specialists and non-specialists.

Ethical consideration

The digital version of the questionnaire (Google form) was circulated using various platforms. Active participation in the survey and submitting the response were taken as consent to participate in the study. Exclusion of duplicate entries/responses was made using the respondent's email address. To maintain the confidentiality and anonymity of the collected data, a separate account was created for the study.

Submission of an incomplete survey was not possible due to an inbuilt function of the survey. Ethical clearance for the study was taken from the institute ethics committee (RC/2020/85 dated January 28, 2021).

Questionnaire

The anonymous questionnaire consisted of two parts. The first part included basic demographic details, such as age, gender, level of medical education, present clinical practicing status, designation, location and level of the health sector of practice, number of patients consulted per day, nature of patient-care COVID duties, and whether they are getting support from paramedical staff and administration in providing patient-care during COVID-19. The second part consisted of an assessment of the self-reported physician empathy using the validated Jefferson Physician's Empathy (JPE) - Health Professional (HP) version questionnaire in English.⁸ Permission to use the scale was obtained from Thomas Jefferson University for this study. The Jefferson Physician empathy scale consisted of 20 questions on a Likert scale of 1–7. Ten items were reverse coded, and the total score of all the 20 questions gives the physician empathy score. The score ranges between 20 and 140. A higher score suggests a better behavioral orientation of physician empathy for patients. Ten items of the physician's empathy scale (1, 3, 6, 7, 8, 11, 12, 14, 18, and 19) were reverse coded as per the scale manual provided by Thomas Jefferson University.^{8,9} Any participant responded less than 16 questions is regarded as incomplete and excluded from the study as per the scoring protocol. The total score of all the 20 scale items is calculated as the empathy score.

Statistical analysis

The reliability of the scale with 20 items was assessed using Cronbach's alpha (α) and was high ($\alpha = 0.784$). Hence, all 20 items of the scale were used for the analysis. The normality of the empathy score was tested using Shapiro–Wilk's test. The empathy score was not normally distributed (p -value = 0.002); hence, the score was further categorized into two categories, namely ≤ 105 , and >105 . The continuous variables were summarized using median and interquartile range (IQR), while categorical variables were described using frequencies and percentages. Mann–Whitney U test and Kruskal–Wallis test were used to study the differences in median empathy scores across various demographic characteristics of physicians. The chi-square test of independence was used to test the physician's characteristics associated with the empathy score categories. The univariate and multiple logistic regression models were developed to identify the demographic and patient-care characteristics associated with the physician's empathy. The characteristics with a p -value ≤ 0.10 were retained in the final multiple logistic regression model. The age and gender of the physicians were considered as the *a priori* variables in the model. The odds ratios (OR) and the adjusted odds ratios (AOR), along with 95% confidence intervals (95% CI) were reported in univariate and multiple logistic regression, respectively. Statistical significance was set

at a p-value ≤ 0.05 . All the data analysis was done in STATA 12.1 (StataCorp LP, Texas, USA).

Results

About 409 practicing physicians participated in the online survey. After duplicate entry removal, 387 responses were included for the analysis. Fig. 1 shows the flowchart of survey respondents. Table 1 describes the profile of the respondent physicians. Patient-care factors during COVID-19, namely nature of patient-care duties, patients consulted per day, support from paramedical staff, and support from the administration during the pandemic are tabulated (Table 2). The physician's median empathy score was 100 (IQR = 89, 113) and about 40% of the physicians reported an empathy score of >105 , i.e., beyond the third quartile (score of 105–140).

The median empathy score and the two empathy score categories (<105 and >105) did not differ statistically with the profile of the physicians, namely age, gender, medical education, specialty, the health sector of practice, level of healthcare, and designation (Table 3). However, there was a significant association between the patient-care factors and median empathy score (Table 4). The median empathy score was 102 (IQR = 91, 113) for the physicians who engaged in OPD duty and was significantly higher than the physicians who did not engage in OPD duty ($p = 0.022$). The empathy score was significantly decreased with the higher volume of patients consulted per day. In physicians who were consulting <50 patients and ≥ 50 patients per day, the median score was 102 (IQR = 91, 113) and 95 (IQR = 86, 110), respectively (p -value = 0.020). In the case of physicians who were consulting ≥ 50 patients per day, more than two-thirds (70.0%) of them reported an empathy score of ≤ 105 compared to 30% of physicians with an empathy score of >105 (p -value = 0.035). More than 60% of physicians mentioned that they had adequate support from administration and paramedical staff, and these factors did not significantly affect the empathy scores (Table 4).

Logistic regression models

Empathy score ≤ 105 was considered as the reference category. Age, level of the health system, designation, OPD duty, and patient volume per day were significantly associated with the empathy score >105 in univariate modeling (Table 5). In multiple regression, the physicians >40 years old (AOR = 2.545, 95% CI = 1.1133, 5.8184), working in a government primary or secondary healthcare centers (AOR = 2.711, 95% CI = 1.1372, 6.4616), were about three times more likely to have the empathy score >105 compared to the physicians younger than 40 years (p -value = 0.027) and private practitioners ($p = 0.024$) (see Fig. 2). Physicians who engaged in OPD duty were 1.5 times more likely to have an empathy score >105 (AOR = 1.497, 95% CI = 0.9333, 2.4004) compared to the physicians who were not doing OPD duty (p -value = 0.094). The physicians who were consulting more than 50 patients per day were found 52.8% less likely to have an empathy score >105 (AOR = 0.528, 95% CI = 0.3096, 0.8989) compared to the

physicians who were consulting less than 50 patients per day (p -value = 0.019).

Discussion

Physician empathy is being able to understand the patient's concern and comfort him/her to allay their anxiety. Our study's aim in assessing the self-reported physician empathy, especially during a crisis, such as the ongoing pandemic, is a novel attempt in the field of medical education and clinical practice. The study included respondents from wide geographic locations within the country and different health sectors, levels, and designations of practice. In addition to documenting the physician empathy score, the study also highlights the association between empathy and the physician profile as well as patient-care factors during COVID-19.

Self-reported physician empathy score during COVID-19

Fostering empathy during medical education has been widely recommended across the globe.¹⁰ The need for empathy-based medical education has led to the incorporation of empathy as a competency to be acquired under the Attitude, Ethics, and Communication module (AETCOM) throughout 4 years of the medical curriculum by the National Medical Commission since 2018.¹¹ In our study, the median total physician empathy score was 100 (IQR = 89, 113), i.e., in the third quartile (Fig. 2). This shows that there is a positive skewing of the empathy score and the physicians self-reported that their empathy for patients was high despite an ongoing crisis.

We could not find any studies done during the pandemic among practicing physicians, especially within this country to compare our study findings. In a study conducted by Wang H et al. among emergency department health providers of a tertiary care hospital in Texas, USA, the median physician empathy score of 41 health providers was 111 (IQR = 109, 121).¹² Despite an enormous load of the pandemic on the healthcare system of a populous country like India, about 40% of the physicians reported an empathy score of >105 , i.e., beyond the third quartile (Fig. 2). The lowest and highest empathy scores reported by doctors were 39 and 140, respectively, which shows that there is room for an improvement of the physician empathy score among the doctors through various educational and organizational interventions.

Physician profile and empathy score

Physician profile analysis showed that about 57% male doctors and 56% of the respondents were practicing in the government health sector. More than 23% of the doctors were practicing in primary or secondary government healthcare centers, and 38% were in tertiary level healthcare centers. The respondents were from various medical and surgical specialties, including 24.5% of doctors involved in general practice or family medicine (Supplementary Table S1). Even though we did not find any association between the profile of

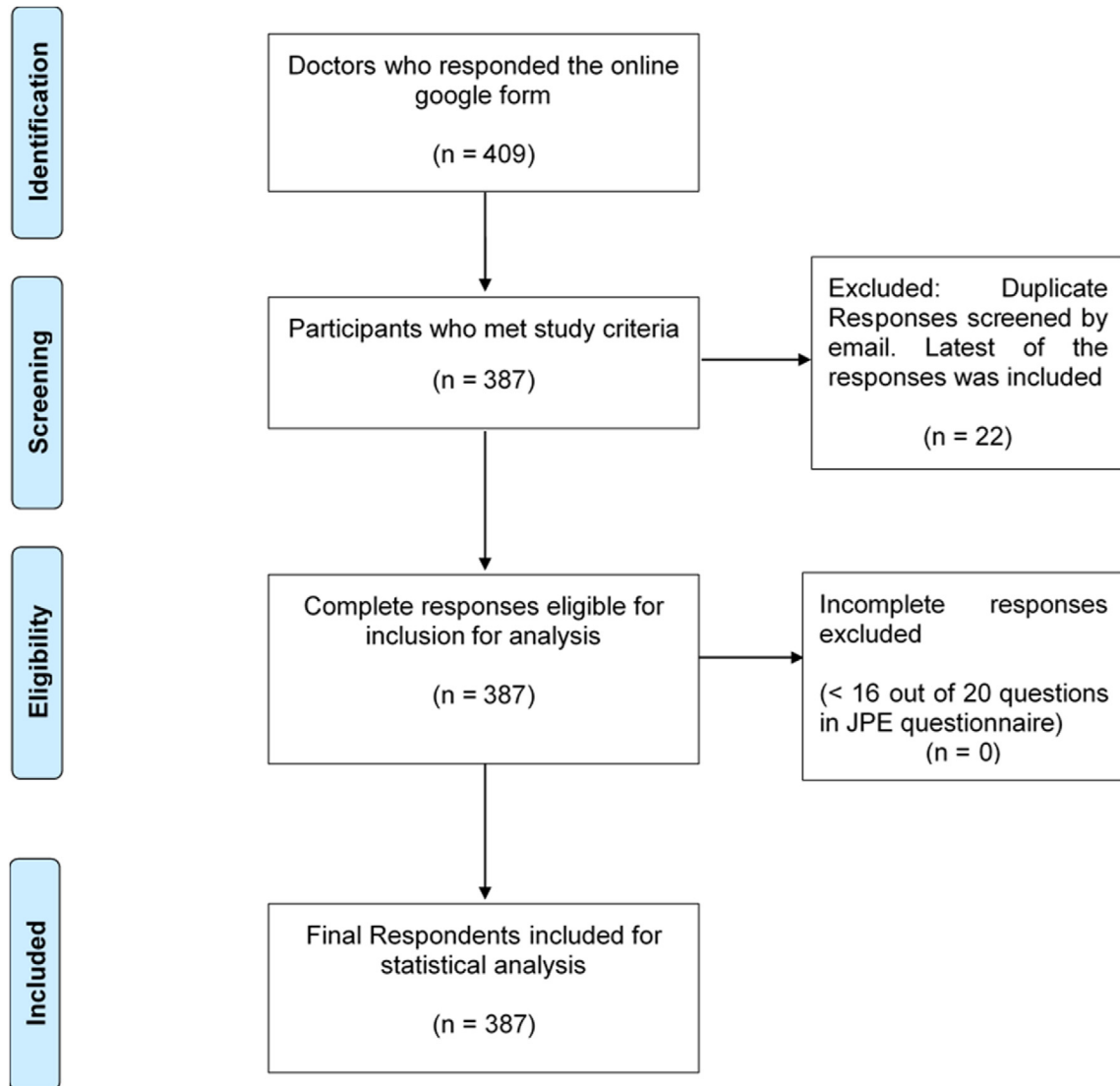


Fig. 1 – Flowchart of survey respondents.

doctors and the empathy score categories, univariate logistic regression showed age >40 years, and the government health sector of practice at a primary/secondary level was significantly associated with achieving an empathy score >105 as compared to lower age group, private, and tertiary level of practice (Table 5). This group of doctors was about three times more likely to have an empathy score >105 compared to the physicians younger than 40 years (p -value = 0.027) and private practitioners (p = 0.024) (Fig. 3). Osim et al. have also reported similar higher empathy scores among senior Nigerian doctors.¹³

We found no difference in physician empathy scores concerning gender, medical degree, and designation of the doctors, which resonates with few other studies on physician empathy.^{12,14,15} Contrary to this finding, various studies have also reported higher empathy scores in females and have attributed this to gender-specific neural networks in emotional social cognition.^{8,12,16–18} The inconsistency in this gender difference may also be due to the varied cultural and

medical practice across the globe and forms a base for further in-depth studies in the future.

A novel finding to the best of our knowledge is the difference in empathy score based on the health sector and level of healthcare center of practice. About 23% of primary and secondary level government health sector physicians reported a higher median score of 105 (IQR = 92, 114) and about three times the odds of reporting empathy score more than 105 (AOR = 2.711, 95% CI = 1.1372, 6.4616) (p = 0.024) (Fig. 3). This unique finding posits that an in-depth study considering the level and sector of practice can provide key inputs in planning various educational and interventional programs for the physicians based on the sector and level of health facility of practice in India.

Patient-care factors during COVID-19 and empathy score

Patient-care factors, including nature of patient-care duties during COVID-19, number of patients consulted per day,

Table 1 – Profile of respondent physicians.

Profile of respondent physicians	n (%)
Total physicians	387 (100)
Age group (years)	
20 – 25	60 (15.5)
26 – 30	115 (29.7)
31 – 35	99 (25.6)
36 – 40	66 (17.1)
41 – 45	17 (4.4)
46 – 50	13 (3.4)
51 – 55	8 (2.1)
56 – 60	2 (0.5)
> 60	7 (1.8)
Gender	
Male	222 (57.4)
Female	165 (42.6)
Education	
CRRI/intern	16 (4.1)
MBBS	145 (37.5)
Diploma	15 (3.9)
MD/equivalent	182 (47)
DM/equivalent	23 (5.9)
PhD	1 (0.3)
Post-doctoral	3 (0.8)
Other	2 (0.5)
Health sector	
Government	218 (56.3)
Private	169 (43.7)
Level of the healthcare system	
Government primary healthcare center/equivalent	42 (10.9)
Government secondary healthcare center/equivalent	51 (13.2)
Government medical college	76 (19.6)
Corporate hospital	34 (8.8)
Tertiary care hospital/equivalent	148 (38.2)
Private practice	36 (9.3)
Designation	
CRRI/intern	29 (7.5)
Medical officer	99 (25.6)
Junior resident	73 (18.9)
Senior resident	48 (12.4)
Assistant professor	40 (10.3)
Junior consultant	32 (8.3)
Senior consultant	25 (6.5)
Associate professor	21 (5.4)
Professor	20 (5.2)

support from paramedical staff, and healthcare administration in delivering patient-care with empathy, were considered in our study. The respondents in the survey had the option to choose more than one choice regarding the nature of patient-care duty performed namely ward duties (inpatient services), intensive care unit (critical care services), out-patient department (outpatient services), contact tracing duties (preventive care services), laboratory duties (laboratory services), and administrative duties (Table 2). In the decreasing order of nature of patient-care duties performed, almost two-thirds (66%) of the doctors had performed outpatient duties, 60% of doctors had performed inpatient services, and 40% of them had performed critical care duties. We found statistically significant higher empathy scores only in 66% of physicians who performed outpatient duties as compared to those physicians who did not perform outpatient duties ($p = 0.022$). We could not find any studies that have compared the physician

Table 2 – Patient-care factors during COVID-19.

Factors	n (%)
Nature of patient-care duty during COVID-19	
Ward duties (inpatient care)	232 (59.9)
Intensive care unit (intensive care)	153 (39.5)
Out-patient department (outpatient care)	257 (66.4)
Contact tracing	109 (28.2)
Administration	127 (32.8)
Laboratory (lab services)	53 (13.7)
No. of patients consulted (per day)	
<10	102 (26.4)
11–49	195 (50.4)
50–99	59 (15.2)
100–149	14 (3.6)
150–199	9 (2.3)
>200	8 (2.1)
Adequate support of paramedical staff/HCW	
No	55 (14.2)
Yes	268 (69.3)
Maybe	64 (16.5)
Adequate support from the administration	
No	65 (16.8)
Yes	243 (62.8)
Maybe	79 (20.4)

empathy levels based on the wide nature of patient-care duties carried out by the physicians during COVID-19.

Chaitoff et al, have reported similar findings of higher empathy scores among physicians who did outpatient practice as compared to inpatient settings in the USA.¹⁹ In regression modeling, we found that the physicians who were engaged in outpatient patient-care were 1.5 times more likely to have an empathy score of more than 105 (AOR = 1.497, 95% CI = 0.9333, 2.4004) compared to the physicians who were not performing outpatient care duties ($p = 0.094$). Even though, in our study, there was no significant difference in empathy levels between those who performed administrative duties and their counterparts during COVID-19, and 43.3% of these physicians reported empathy scores of >105 with a highest median empathy score of 103 (IQR = 90, 114) compared to physicians who performed any other nature of patient-care duties performed.

Osim et al. have reported similar higher empathy scores among Nigerian physicians performing administrative duties.¹³ According to them, physicians with higher levels of empathy and social skills gravitate more toward administrative roles as well as physicians performing administrative duties over time learn and exhibit more empathy to function better in their role.¹³ Physicians who performed laboratory patient-care services reported the lowest median empathy scores of 95 (IQR = 87, 112) which corroborates with findings of other studies that reported lower empathy scores in technology-oriented specialties, such as pathology and radiology.^{19,20}

We also noticed that physician-reported empathy scores significantly decreased with the higher volume of patients consulted per day. The median empathy score was 102 (IQR = 91, 113) and 95 (IQR = 86, 110) in physicians who were consulting <50 patients and ≥ 50 patients per day, respectively

Table 3 – Physicians' profile and empathy score.

Physicians profile	No. of physicians N	Empathy score categories		p-value	Empathy score	
		≤105 n (%)	>105 n (%)		Median (IQR)	p-value
All physicians	387	234 (60.5)	153 (39.5)		100 (89, 113)	
Age (years)				0.123		0.148
20–25 years	60	40 (66.7)	20 (33.3)		99.5 (88, 109)	
26–30 years	115	73 (63.5)	42 (36.5)		99 (89, 112)	
31–35 years	99	63 (63.6)	36 (36.4)		100 (91, 111)	
36–40 years	66	37 (56.1)	29 (43.9)		101 (84, 114)	
> 40 years	47	21 (44.7)	26 (55.3)		107 (93, 122)	
Gender				0.497		0.699
Male	222	131 (59.0)	91 (41.0)		100 (89, 113)	
Female	165	103 (62.4)	62 (37.6)		101 (91, 113)	
Education				0.590		0.753
Up to MBBS/diploma	176	109 (61.9)	67 (38.1)		101 (89, 113)	
MD or above	211	125 (59.2)	86 (40.8)		100 (89, 113)	
Health sector				0.223		0.313
Government	218	126 (57.8)	92 (42.2)		101.5 (89, 113)	
Private	169	108 (63.9)	61 (36.1)		99 (89, 112)	
Level of health sector				0.129		0.166
Private practice	36	25 (69.4)	11 (30.6)		98 (90.5, 108.5)	
Govt PHC/SHC	93	48 (51.6)	45 (48.4)		105 (92, 114)	
Govt medical college	76	51 (67.1)	25 (32.9)		97.5 (87, 110.5)	
Corporate/tertiary care hospital	182	110 (60.4)	72 (39.6)		101 (90, 113)	
Designation				0.079		0.071
Intern/resident	150	100 (66.7)	50 (33.3)		99 (87, 110)	
Medical officer	99	52 (52.5)	47 (47.5)		103 (92, 117)	
Consultant/professor	138	82 (59.4)	56 (40.6)		101 (91, 113)	

Note: *statistically significant; IQR – interquartile range; PHC – primary health center; SHC – secondary health center.

Table 4 – Patient-care factors during COVID-19 and physicians' empathy score.

Patient-care factors during COVID-19	No. of physicians N	Empathy score categories		p-value	Empathy score	
		≤105 n (%)	>105 n (%)		Median (IQR)	p-value
Nature of patient-care duties						
Ward duty				0.225		0.317
No	155	88 (56.8)	67 (43.2)		102 (88, 115)	
Yes	232	146 (62.9)	86 (37.1)		99 (89.5, 110.5)	
ICU duty				0.752		0.272
No	234	140 (59.8)	94 (40.2)		101 (90, 113)	
Yes	153	94 (61.4)	59 (38.6)		99 (87, 111)	
Out-patient care duty				0.065		0.022 ^a
No	130	87 (66.9)	43 (33.1)		97 (85, 111)	
Yes	257	147 (57.2)	110 (42.8)		102 (91, 113)	
Contact tracing duty				0.502		0.944
No	278	171 (61.5)	107 (38.5)		100 (89, 113)	
Yes	109	63 (57.8)	46 (42.2)		102 (89, 113)	
Administration duty				0.289		0.203
No	260	162 (62.3)	98 (37.7)		99 (89, 112)	
Yes	127	72 (56.7)	55 (43.3)		103 (90, 114)	
Laboratory duty				0.555		0.204
No	334	200 (59.9)	134 (40.1)		101 (90, 113)	
Yes	53	34 (64.2)	19 (35.8)		95 (87, 112)	
No. of patients consulted (per day)				0.035 ^a		0.020 ^a
< 50	297	171 (57.6)	126 (42.4)		102 (91, 113)	
≥ 50	90	63 (70.0)	27 (30.0)		95 (86, 110)	
Adequate support of paramedical staff				0.455		0.381
No	55	37 (67.3)	18 (32.7)		96 (85, 112)	
Yes	268	157 (58.6)	111 (41.4)		101 (89, 113)	
Maybe	64	40 (62.5)	24 (37.5)		101 (92, 112.5)	
Adequate support from the administration				0.141		0.262
No	65	44 (67.7)	21 (32.3)		98 (87, 112)	
Yes	243	149 (61.3)	94 (38.7)		100 (89, 113)	
Maybe	79	41 (51.9)	38 (48.1)		104 (93, 113)	

^a statistically significant; IQR – interquartile range, ICU – intensive care unit.

Table 5 – Logistic regression of factors associated with physicians' empathy.

Physician's characteristics	OR (95% CI)	p-value	AOR (95% CI)	p-value
Constant			0.251 (0.0891, 0.7084)	0.009
Age (years)				
20–25 years (Ref)	1.000			
26–30 years	1.151 (0.5963, 2.2206)	0.676	1.074 (0.5438, 2.1203)	0.837
31–35 years	1.143 (0.5818, 2.2449)	0.698	1.139 (0.5622, 2.3082)	0.718
36–40 years	1.568 (0.7599, 3.2339)	0.224	1.578 (0.7427, 3.3531)	0.235
> 40 years	2.476 (1.1276, 5.4377)	0.024*	2.545 (1.1133, 5.8184)	0.027^a
Gender				
Male (Ref)	1.000			
Female	0.867 (0.5732, 1.31)	0.497	0.935 (0.601, 1.4560)	0.767
Education				
Up to MBBS/diploma (Ref)	1.000			
MD or above	1.119 (0.7429, 1.6863)	0.590		
Health sector				
Government (Ref)	1.000			
Private	0.774 (0.5117, 1.1694)	0.223		
Level of health system				
Private practice (Ref)	1.000			
Govt PHC/SHC	2.131 (0.9408, 4.8256)	0.070*	2.711 (1.1372, 6.4616)	0.024^a
Govt medical college	1.114 (0.4736, 2.6209)	0.805	1.394 (0.5725, 3.3927)	0.465
Corporate/tertiary care hospital	1.488 (0.6896, 3.2092)	0.311	1.853 (0.8253, 4.1596)	0.135
Designation				
Intern/resident (Ref)	1.000			
Medical officer	1.808 (1.0742, 3.0419)	0.026*		
Consultant/professor	1.366 (0.8449, 2.208)	0.203		
Ward duty				
No (Ref)	1.000			
Yes	0.774 (0.511, 1.1713)	0.225		
ICU duty				
No (Ref)	1.000			
Yes	0.935 (0.6158, 1.4192)	0.752		
Outpatient dept				
No (Ref)	1.000			
Yes	1.514 (0.974, 2.3533)	0.065*	1.497 (0.9333, 2.4004)	0.094^a
Contact tracing duty				
No (Ref)	1.000			
Yes	1.167 (0.7438, 1.8308)	0.502		
Administration duty				
No (Ref)	1.000			
Yes	1.263 (0.8203, 1.9439)	0.289		
Laboratory duty				
No (Ref)	1.000			
Yes	0.834 (0.4566, 1.5236)	0.555		
No. of patients consulted (per day)				
< 50 (Ref)	1.000			
≥ 50	0.582 (0.3506, 0.9649)	0.036*	0.528 (0.3096, 0.8989)	0.019^a
Adequate support - paramedical staff/HCW				
No (Ref)	1.000			
Yes	1.453 (0.7869, 2.6839)	0.232		
Maybe	1.233 (0.5784, 2.6298)	0.587		
Adequate support - administration				
No (Ref)	1.000			
Yes	1.322 (0.7398, 2.3618)	0.346		
Maybe	1.942 (0.9819, 3.8405)	0.056		

*. ^a statistically significant; PHC – primary health center; SHC – secondary health center; OR – odds ratio; AOR – adjusted odds ratio.

(p-value = 0.020). More than two-thirds (70%) of physicians who were consulting ≥ 50 patients per day had reported an empathy score of ≤ 105 as compared to their counterparts (p-value = 0.035). Regression analysis showed that these physicians were 52.8% less likely to have an empathy score > 105

(AOR = 0.528, 95% CI = 0.3096, 0.8989) compared to the physicians who were consulting less than 50 patients per day (p-value = 0.019).

Studies have shown that patient-care health system-related factors, such as increased workload, higher patient

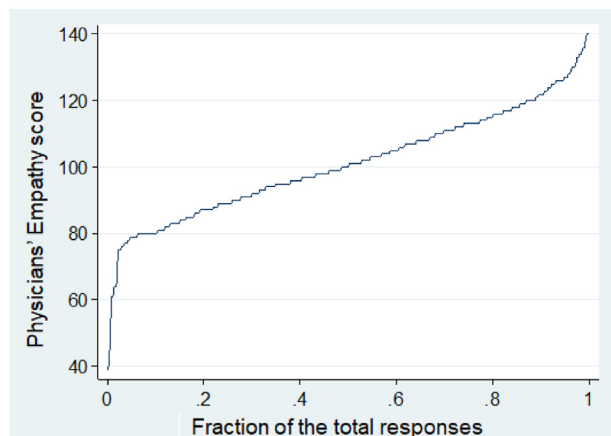


Fig. 2 – Physicians' empathy score of total responses.

waiting time, and lesser consultation time, are negatively associated with physician empathy.^{21,22} Further, increased stress and workload-related burnout are also associated with lower empathy scores which might have been the case during the ongoing pandemic that exerted enormous pressure on the health system.²³ These findings suggest that even though empathy is a trait by nature, there is a need to nurture and hone this trait, especially during a crisis setting. Various behavioral and educational interventions studied have shown that the learned empathetic approach by physicians has improved doctor-patient relationships, better patient

satisfaction, and hence quality healthcare delivery.^{24–27} Technological and innovative administrative interventions to give important cues to the physician, such as embedding pop-up reminders to the electronic health records, using mobile apps to provide steps about approach to a conversation, and highlighting key patient worries in health record to be addressed for future visits in such a heavy workload scenario, can yield better empathetic outcome.^{26,28}

Limitations of the study

Assessment of empathy in a doctor-patient encounter is a two-sided coin involving the perception of both patient and the doctor. In our study, we have assessed the physician's perception of the two-party relationship in a crisis setting. The findings of the study provide future scope to compare the perception of both the patient and physician for better comprehension of the behavior and take appropriate interventions during the medical curriculum. Even though the respondents participated from a wide diaspora in this online survey, recall bias due to the retrospective questionnaire and evolving nature of the pandemic setting favor future longitudinal health facility-based studies to gain better insight into this critical physician function.

Conclusions

This study highlights the empathy aspect of physician during the ongoing COVID pandemic, which is a key tenet of the new National Medical Commission competency-based medical curriculum. More than half of the respondent physicians have

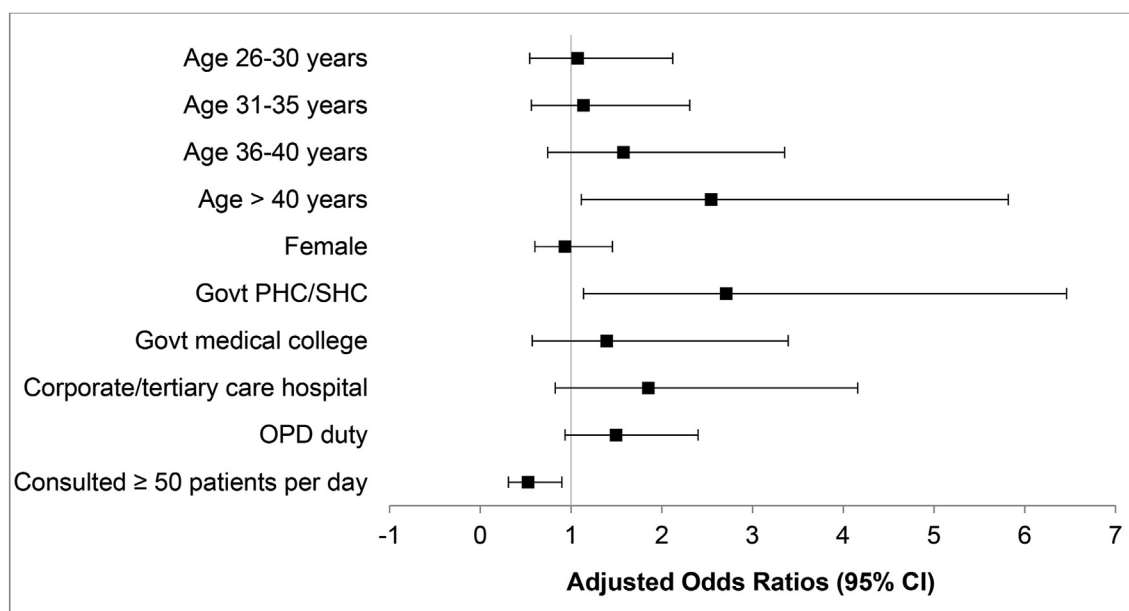


Fig. 3 – Multiple regression of factors associated with physicians' empathy.

recorded high empathy scores assuring that the physicians even in this distressing situation better perceive empathy for patients. However, an increasing number of patient consultations compromises the empathy scores from physicians' viewpoint, highlighting the need for administrative and medical education intervention. This shows that educating and focusing on the behavioral/communication skills during varied simulated situations followed by a stringent assessment on this skill during the exit exams will pave the way for better empathetic skills among physicians.

Disclosure of competing interest

The authors have none to declare.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.mjafi.2022.08.012>.

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