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Perceived and Received Support by Academic Medicine Faculty During the COVID-19 Pandemic: A Single Institution Study

Megan Ferriby Ferber PhD[1], Tina Chen MD[2], Jane McHowat PhD[3], Rachel L. Charney MD[4] and Cindy C. Bitter MD, MPH[2]

[1]Medical Family Therapy Program, Department of Family and Community Medicine, Saint Louis University School of Medicine, Saint Louis, Missouri; [2]Department of Surgery, Saint Louis University School of Medicine, Saint Louis, Missouri; [3]Department of Pathology, Saint Louis University School of Medicine, St. Louis, MO and [4]Department of Pediatrics, Saint Louis University School of Medicine, Saint Louis, MO

Original Research

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Corresponding author:
Megan Ferriby Ferber;
Email: megan.ferber@health.slu.edu.

Abstract

Objective: The COVID-19 pandemic negatively impacted healthcare worker well-being, leading to increased burnout and decreased workplace engagement. To combat expected stressors from the pandemic, our mid-sized academic health center implemented numerous institutional support, such as town halls, and virtual support groups. This study aimed to evaluate faculty utilization of institutional support, its association with perceived organizational support, received organizational support, and burnout.

Methods: A retrospective, cross-sectional survey was distributed to 630 faculty employed at our institution in September 2020, assessing participant demographics, institutional support utilized, perceived organizational support, and burnout, through a combination of self-report measures and qualitative responses.

Results: A total of 79 (12.5%) faculty provided complete responses and were included in the analysis. Qualitative analysis identified 4 primary themes: (1) flexibility and adjusted expectations, (2) direct communication, (3) sense of community, and (4) no support felt, with additional subthemes within each larger theme. Increased utilization of institutional support was associated with decreased odds of experiencing burnout.

Conclusion: Flexibility, communication, and sense of community emerged as important strategies for maintaining faculty well-being and engagement during the early stages of the COVID-19 pandemic. This study suggests that utilization of workplace support is protective against burnout. Perceived support was not beneficial.

Overview and Purpose

The novel coronavirus disease of 2019 (COVID-19) erupted at a time when there was already significant concern regarding healthcare worker wellness and burnout.[1] Healthcare workers are a particularly vulnerable group during pandemics due to fear of contagion and spread to family members.[2–4] The detrimental effect on the mental health of healthcare workers has been documented during previous pandemics, resulting in increased reporting of depression, anxiety, and stress, as well as burnout.[5–7] Studies published following the declaration of the COVID-19 pandemic suggest that at least 1 in 5 healthcare professionals were experiencing depression and anxiety, with a higher incidence in women than men.[8–11] In addition to the impact on mental health of healthcare professionals, the COVID-19 pandemic was accompanied by additional concerns such as the lack of personal protective equipment, inadequate information, rapidly changing protocols, and possible need to practice outside one's scope of training.

In addition to detriments to their personal health and wellness, burnout and psychological distress amongst physicians is associated with negative impacts on patient care and safety, which can be associated with increased healthcare cost.[12] These concerns highlight the importance of support, training, and communication.[13] While institutions are increasingly giving attention to healthcare burnout, well-being, and work-life integration, the type of support during crises remains largely reactive, and employee utilization of support needs to be evaluated.

Within the work setting, perceived organizational support is the "employees general belief that their work organization values their contribution and cares about their well-being" and is categorized as fairness, supervisor support, favorable working conditions, and organizational rewards.[14,15] Perceived support is associated with enhanced job satisfaction, employee mood, job performance, and affective commitment.[15,16] Several surveys have suggested that healthcare workers who felt valued by their employer would be more likely to continue working during a theoretical infectious disease outbreak.[17,18] This framework has intuitive appeal to the healthcare setting but has only rarely been explicitly applied to healthcare workers. In contrast to perceived

support, received organizational support refers to the availability of specific resources and supportive actions taken by the organization.[15]

Immediately after the World Health Organization declared COVID-19 a pandemic on March 11, 2020, Saint Louis University School of Medicine (SOM) implemented a range of institutional support for faculty, staff, and learners. A COVID-19 Task Force was formed from University SOM, and hospital leadership, together with infectious disease experts. Daily task force meetings began on March 13, 2020, creating guidelines for alterations to research, and education, as well as clinical service, travel, and events. Within 2 weeks, several avenues of support were created, including: (1) minutes from the daily task force meetings distributed to all faculty, staff, and learners; (2) weekly Town Hall meetings held by the SOM Dean to discuss updates and solicit feedback; (3) weekly virtual support group meetings held for faculty, residents, staff, and students; (4) a COVID-19 resources webpage established with updated information, mental health support, community building exercises, and other support resources; and (5) mental health consultations through the Department of Psychiatry.

This study aimed to evaluate the effect of these implemented institutional supports on perceived organizational support, received organizational support, and burnout among faculty.

Methods

Sample and Procedures

The data for this project were obtained from a cross-sectional survey conducted at a mid-sized academic health center consisting of 630 faculty. Survey items were developed by content experts in faculty wellness and reviewed by faculty with expertise in survey development. The survey underwent multiple iterations, including multiple rounds of content validation and pilot administration, to refine survey themes. The final, 52-item survey employed a combination of demographic questions, self-report measures, and qualitative responses. Prior to distribution, the Institutional Review Board approved the final study materials.

Inclusion criteria for survey distribution was employment at the academic health center in a faculty position. There were no exclusion criteria based on academic rank or full/ part-time status. Participation was voluntary, and no compensation was offered to participants. An email introducing the study and a link to the Qualtrics survey was sent out in September 2020 and the survey was open over the next 8 weeks, with reminder emails sent after 2 weeks, 4 weeks, and 6 weeks.

Measures

Demographics were measured using self-report measures of respondent's gender, race, age, and academic rank, as well as status as clinical versus basic science faculty, and household occupants.

Perceived support was measured using the responses to an open-ended question. The prompt read: "How has Saint Louis University effectively supported you during the COVID-19 pandemic?" Participants typed in their responses into a text box. The data was downloaded and cleaned of typographical and punctuation errors prior to entering it into Atlas.ti (ATLAS.ti, Bergmannstraße, Berlin, Germany).

Received support was measured by asking participants which of the institutional supports were utilized prior to the survey.

Table 1. Utilization rates of institutional supports implemented in the wake of COVID-19

Institutional support	Frequencies N (%)
Town Hall listening sessions	25 (31.6%)
Daily huddle	21 (26.6%)
COVID-19 website	19 (24.1%)
Wellness resources	10 (12.7%)
Mental health resources	5 (6.3%)
Professional oversight/ Ombudsman	5 (6.3%)
Other	12 (15.2%)

Participants were provided with a list of implemented institutional supports (Table 1) and asked to select any and all utilized. Scores were computed by totaling the number of supports selected.

Burnout was measured using a single-item, non-proprietary, validated measure of burnout.[19] Participants were asked to indicate their pre- and post-COVID burnout levels on a 5-point scale. The burnout measure was dummy coded, with those selecting the first 2 responses coded as '0' = *not experiencing burnout*, and those selecting the last 3 responses coded as '1' = *experiencing burnout*.

Analysis

All statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 27 (IBM Corp., Armonk, NY, USA). Demographic, checklist data, and dummy codes were analyzed using descriptive statistics. Free-response data were coded using thematic analysis to generate themes that captured the experiences/ reality of the participants following the steps described in Braun and Clarke (2006),[20] and Atlas.ti was utilized to identify and organize codes.

Raw qualitative data were divided between 2 members of the research team. During the initial round of coding, 23 codes were identified. The 2 coders met and compared themes identified in the data. They collapsed codes down to 9 codes from the initial 23 codes based on similar language and meaning. These 9 codes, representative quotes, the first author's reflexive commentary were compiled into a codebook and shared with the research team.[21] The research team met to discuss the codebook along with the reflexive commentary. During the team meeting, codes were refined and integrated into the codebook by the first author. After the coding of the data, a dummy variable was created to indicate whether the code represented that the participant 'felt supported' (coded 1) or 'felt unsupported' (coded 0). This new variable was entered into the larger dataset and used as an independent variable in logistic regressions to predict post-COVID burnout using SPSS 27 (IBM Corp., Armonk, NY, USA).

The research team employed several methods to increase the rigor of the qualitative analysis. First, data were coded by 2 independent coders during the initial phase of coding, allowing codes to be independently formed before comparison. During the initial meeting of the 2 coders, codes were compared and combined if they were similar in meaning. During the presentation to the larger research team, the coders presented codes on which they disagreed, and the larger group worked to resolve discrepancies. Further, the larger research team discussed alternative codes and interpretations of the raw data to add.[22] Saturation of the data was met when codes became redundant among the responses.[23] Finally,

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the research team utilized an external check by presenting the 9 codes along with representative quotes to a larger committee of faculty members who were not part of the research team to ensure the clarity and accuracy of the codes.

Researcher Reflexivity

The research team included 4, cis-gender female faculty members at Saint Louis University. Three of the researchers identify as white, and 1 identifies as Asian. Two of the researchers were clinically active during the COVID-19 pandemic. Taken together, the research team experienced the institutional changes alongside the participants which informed the lens through which they interpreted the responses. The research team utilized meetings, self-reflective commentary, and an external check to identify biases brought to the analysis and worked to separate their own experience from that of the respondents.

Results

Sample Overview

Of the 630 faculty who were invited to participate, 138 responded to the survey. Seventy-nine participants (57.2% of respondents, 12.5% of all faculty) had complete data and were included in the final analysis. Fifty-nine participants were excluded due to incomplete data on the questions examined in this study. Full sample demographics are listed in Table 2. The majority of participants were female (63.3%), identified as white (87.3%), were 20 - 39 years old (35.4%), a clinical faculty member (79.7%), and were assistant professors (40.5%).

Table 2. Sample demographics

Variable	Frequencies N(%)
Gender	
Female	50 (63.3%)
Male	29 (36.7%)
Race	
White	69 (87.3%)
Black/African American	5 (6.3%)
Asian	3 (6.3%)
Hispanic/Latinx	3 (2.5%)
Age	
20 - 39	28 (35.4%)
40 - 49	18 (22.8%)
50 - 59	16 (20.3%)
60 +	17 (21.5%)
Academic rank	
Assistant	32 (40.5%)
Associate	21 (26.6%)
Full	26 (32.9%)
Job Classification	
Clinical	63 (79.7%)
Basic Science	16 (20.3%)
Burnout status pre-Covid-19	
Not experiencing burnout	59 (74.7%)
Experiencing burnout	20 (25.3%)
Burnout status currently	
Not experiencing burnout	46 (58.2%)
Experiencing burnout	33 (41.8%)

Qualitative Findings

Four primary themes were identified in the dataset, specifically: flexibility and adjusted expectations (n = 32; 40.0%), direct communication (n = 15; 18.8%), sense of community (n = 8; 10.0%), and no support felt (n = 17; 21.2%). Additional subthemes were identified within the larger themes and will be discussed in detail below.

Flexibility and adjusted expectations

These captured the respondents' experience of the institutional policy changes surrounding COVID-19 and the sense that the university supported their individual needs. The respondents remarked on the sense of control they had around how they could go about completing their work, particularly non-clinical work, as demonstrated by 2 participants: "They have been flexible about the ways I complete my job," and "Allowing my non-clinical time to be flexible."

In addition to the increases in flexibility, some respondents discussed a sense of understanding from the university in terms of adjusting the expectations of faculty. The stresses of the pandemic, both on the clinical and personal side, resulted in novel needs among some faculty, which they felt the university acknowledged. One participant discussed "Understanding since I have high risk health issues that I have the ability to do telemedicine with some of my patients." Regarding expectations of faculty research productivity, several participants remarked on lessened pressure to perform academically and discussion within their programs of tenure clock extension.

Ability to work from home

Some sense of flexibility was directly focused on participants' ability to work from home, which emerged as a subtheme. Working from home emerged as a primary way faculty felt that they could accommodate their needs as well as complete their professional work. This may be particularly salient for faculty with dependents at home, as demonstrated by 1 participant:

> "In turn, being home more (with the university's blessing), has helped me feel less anxious about getting sick so I can focus on work, and less guilty about honoring what's best for me (thus less resentful about work), as well as allowed me to flex my time better so that I can balance childcare and work."

Increase in supplemental resources for faculty

Another subtheme emerged in relation to the increase in supplemental resources for faculty, in which respondents directly commented on the supplementation of resources to faculty in response to COVID-19. Respondents discussed both technological, mental health, and teaching resources as being helpful as they re-balanced their work. It appeared that respondents felt these efforts by the university conveyed a sense of care for faculty even if the faculty themselves did not use each resource, as 1 respondent put it:

> "Having sessions where you can call in to talk about stresses is very helpful. Just knowing that is available is nice."

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Direct communication

Direct communication from the university emphasized the importance of consistent and transparent communication about the evolving response to COVID-19, both at the university, and in the community. The communications, mostly through email, appeared to have served as a touchstone through which faculty felt gave them a sense of understanding in addition to important information. These communications may have filled the gap left by the decreased opportunity to talk among colleagues and co-workers due to social distancing policies. As 1 respondent explained:

> "[Saint Louis University] has made efforts to adjust to the many difficulties that have arisen secondary to COVID-19. Communication and transparency with employees are especially important during these challenging times when in-person interactions with fellow faculty, students, staff, etc., are much less frequent in the workplace than before COVID-19. [Saint Louis University] has done a good job overall with communication and transparency during the pandemic."

Communication regarding clinical information

A subtheme emerged regarding communication regarding clinical information within the larger theme, which captured a sense of appreciation from faculty to the university for trying to inform them of pertinent, clinical information as it became available. These communications appeared to have served as a central place to receive accurate information, which may have been particularly helpful in the initial phases of the pandemic, when information was rapidly being updated and corrected. Clinical faculty may have used these communications as a way of ensuring they were delivering the best possible care given the information they received, as the university appeared to have vetted the information, and presented what was most trustworthy.

Sense of community

This theme described the informal support networks that faculty found within their distinctive programs. The responses within this theme reflected a sense of togetherness among members of faculty and support staff as they worked as a team to adapt to the new challenges put in place by COVID-19, as 1 respondent explained "The support I get from my colleagues in my division, from our staff is important, being a part of a supportive team to get through this together."

Several responses credited the leadership within their specific departments or working groups as fostering a sense of understanding and unity. One respondent described: "I feel that my Division Chief and Department Chair are understanding of the situation we are currently in and the struggles that are happening." Taken together, the responses within this theme emphasize the importance of the culture fostered during departments during times of crisis, with some emphasis placed on leadership to steer these efforts.

No support felt

The final theme of 'No support felt' emerged as the second most prevalent theme, reflecting a significant portion of the participants did not feel that the university was making meaningful changes or efforts to support faculty. This theme captured a conflict between the financial and clinical sides of academic medicine, with responses reflecting the dual messaging that faculty received around providing care, reflected in 1 respondent's statement:

> "Support efforts are diminished by the increase in pressure to achieve [relative value units (RVUs)], patient satisfaction and billable charges. The loss of salary and the [retirement] match is huge, and morale is suffering."

The personal sacrifices that faculty were forced to make, specifically experiencing pay cuts, as well as loss of retirement match, was common among the theme, and communicated a message to faculty that they needed to bear the brunt of the sacrifice made to keep the institution afloat, as 1 participant put it: "The salary cut and the elimination of retirement matching on top of the badly mismanaged XXUCare financial problems and associated salary cuts really feels like the university has asked us to do more for less out of nothing but a sense of duty."

These responses communicated a sense of being taken advantage of by the university as participants could not stop caring for patients even in the face of financial pressures.

Quantitative Findings

Using the codes generated during the qualitative phases of analysis, all responses in the *No support felt* theme were dummy coded as (0) "not supported" and all other responses were dummy coded as (1) "felt supported". This new variable was used in logistic regressions to test for associations with post-COVID burnout. The logistic regression also included pre-COVID burnout, number of formal supports utilized, gender, and academic rank (assistant, associate, full). The model fit was $\chi 2(6) = 27.41$, $P < 0.001$, and explained 40.5% of the variance and correctly classified 79.2% of cases of post-COVID burnout. Only 2 variables emerged as significant predictors of burnout (Table 3): pre-COVID burnout and number of formal supports utilized. Experiencing burnout prior to emergence of COVID-19 and utilizing more institutional supports was associated with decreased odds of experiencing burnout post-COVID.

Limitations

This project is not without its limitations. The survey had a low response rate (12.5% with complete data). Though important themes emerged, they may only represent the experiences of those who participated in the study. Persons with stronger feelings about the support received from the institution may be more likely to respond to a survey, although this could bias the study in either direction. Those who were experiencing burnout may be less likely to have taken the time to participate in the study, which may skew our findings towards those who were managing their stress and tasks in a way that afforded them time to participate in the study. Due to the type of data and the analyses employed, we are unable to draw causal conclusions from the current dataset.

We utilized a self-reported, single item scale to measure burnout in order to minimize respondent burden. Although this scale has been validated and correlates well with other measures of burnout, our results may have differed had we used a more comprehensive screening tool such as the Maslach Burnout Inventory.

Our sample was also limited in terms of diversity, specifically in terms of racial identity. The COVID-19 pandemic coincided with a racial reckoning within the United States due to the murder of George Floyd, which may have created a unique experience for faculty of color which we were unable to explore in the current study. Future studies should seek to employ an intersectional perspective to examine how racial identity intersects with academic faculty's experience of vitality.

Additionally, future studies should seek to study the phenomena of physician burnout and vitality in a longitudinal format to explore potential intervention points.

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Table 3. Regression results predicting odds of currently experiencing burnout

Variable	Beta	SE	Wald	*P* - value	Exp (B)	CI95%
Constant	1.35	0.84	2.55	0.11	3.84	
Experiencing pre-Covid burnout	**− 2.61**	**0.78**	**11.13**	**0.001**	**2.22**	**0.02, 0.34**
Number of formal supports	**− 0.59**	**0.29**	**4.18**	**0.04**	**0.56**	**0.32, 0.98**
Felt support	0.80	0.73	1.18	0.28	2.22	0.53, 9.31
Gender	0.10	0.60	0.03	0.86	1.11	0.34, 3.56
Academic rank - Associate	1.22	0.73	2.77	0.10	1.83	0.81, 14.27
Academic rank – Full	0.61	0.84	2.55	0.11	3.84	0.37, 9.04

Note: SE = standard error. CI 95% = 95% confidence interval. Reference group for academic rank was Assistant Professor

Discussion

This mixed-methods study explored the utility of various approaches taken by an academic medical center to mitigate the stressors of the COVID-19 pandemic on faculty. Flexibility, communication, and sense of community emerged as important strategies to maintain faculty well-being. Conversely, 17/70 (21.5%) did not feel the university acted to support their needs during the pandemic and perceived institutional support did not reduce risk of burnout.

More faculty have expressed an intent to leave academic practice or reduce hours to part time since the onset of the COVID-19 pandemic, particularly female faculty and those with children.[24] This has occurred despite a modest decrease in faculty hours worked, from an average of 50.8 hours per week in January 2019 to 47.5 hours per week in May 2020.[25] Flexibility in scheduling has been promoted as a strategy for improving physician wellness,[26] and was strongly correlated with reduced burnout in a study of pediatricians that occurred prior to the pandemic,[27] as well as a review of nursing literature.[28] Flexibility was successfully implemented in 1 large academic medical center prior to the pandemic.[29] Flexibility in scheduling and use of virtual platforms for didactics were helpful for surgical residents during the COVID-19 pandemic.[30]

Clear communication of directives and precautionary measures to be taken against novel agents were cited as protective during the Severe Acute Respiratory Syndrome (SARS) outbreak in Singapore,[31] and the Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in Saudi Arabia.[32] The importance of clear communication and transparency has been redemonstrated during COVID.[30,33,34]

Interestingly, we did not find that perceived support was helpful in preventing burnout in our faculty. Improved workplace climate as a component of perceived organizational support has been associated with enhanced job satisfaction and lower burnout in multiple studies of emergency nurses, surgical residents, and emergency physicians.[35–37] Faculty experiencing burnout may also feel that the workplace environment at the institution is not supportive.

Social support from friends and family is widely thought to be protective against burnout and occupational stress,[13] but there is less empirical data on social support within the workplace. Dedicated time for positive interactions with colleagues was suggested as an institutional strategy to foster wellness among physicians,[26] and was associated with resilience among residents in obstetrics and gynecology.[38] Support from supervisors and colleagues was associated with improved coping and lower risk of psychological distress among healthcare workers in Singapore during the SARS outbreak,[31] and a lower risk of anxiety or posttraumatic stress disorder among emergency physicians.[39] Perceived poor workplace support within area and perceived poor mental health support were associated with a higher risk of depressive symptoms during COVID in the international survey performed by Khajuria.[40]

Conclusion

Our results identified flexibility in performance of duties, clear communication, and sense of community emerged as important themes for maintaining faculty vitality during the early stages of the COVID-19 pandemic and sought to help provide guidance to administrators and leaders within academic medicine settings on how best to support academic physicians. Academic medicine institutions could utilize tangible, workplace supports to help protect against burnout among faculty. One way to do this is through surveying of faculty to identify the most utilized supports and areas in which faculty desire more tangible support. Academic medical settings are nothing without their faculty and thus should strive to ensure that they are not only performing well but also able to maintain their personal and professional vitality in the face of real-world stressors.

Author contributions. Megan Ferriby Ferber: conceptualized the manuscript, coded survey data for analysis, performed the statistical analysis, and wrote substantial portions of the manuscript; Tina Chen created the survey tool and wrote substantial portions of the manuscript; Jane McHowat wrote substantial portions of the manuscript, organized the external check of qualitative data, and provided editorial guidance; Rachel L. Charney wrote substantial portions of the manuscript and provided editorial guidance; Cindy Bitter conceptualized the manuscript, coded survey data for analysis, and wrote substantial portions of the manuscript.

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