Communicating With Breast Imaging Patients During the COVID-19 Pandemic: Impact on Patient Care and Physician Wellness

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Abstract

Objective: Assess the impact of COVID-19 on patient-breast radiologist interactions and evaluate the relationship between safety measure–constrained communication and physician wellbeing.

Methods: A 41-question survey on the perceived effect of COVID-19 on patient care was distributed from June 2020 to September 2020 to members of the Society of Breast Imaging and the National Consortium of Breast Centers. Non-radiologists and international members were excluded. Anxiety and psychological distress scores were calculated. A multivariable logistic model was used to identify demographic and mental health factors associated with responses.

Results: Five hundred twenty-five surveys met inclusion criteria (23% response rate). Diminished ability to fulfill patients’ emotional needs was reported by 46% (221/479), a response associated with younger age (OR, 0.8 per decade; P < 0.01), higher anxiety (OR, 2.3; P < 0.01), and higher psychological distress (OR, 2.2; P = 0.04). Personal protective equipment made patient communication more difficult for 88% (422/478), a response associated with younger age (OR, 0.8 per decade; P = 0.008), female gender (OR, 1.9; P < 0.01), and greater anxiety (OR, 2.6; P = 0.001). The inability to provide the same level of care as prior to COVID-19 was reported by 37% (177/481) and was associated with greater anxiety (OR, 3.4; P < 0.001) and psychological distress (OR, 1.7; P = 0.03).

Conclusion: The majority of breast radiologists reported that COVID-19 has had a negative impact on patient care. This perception was more likely among younger radiologists and those with higher levels of anxiety and psychological distress.

Key words: COVID-19; pandemic; breast radiology; physician wellness; patient-centered communication; personal protective equipment; patient care; burnout.

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Key Messages
- Based on survey responses from breast radiologists across the U.S., patient care in breast imaging has been significantly impacted by the COVID-19 pandemic, with 88% (422/478) reporting difficulty in establishing rapport due to personal protective equipment and physical distancing, 46% (221/479) reporting a diminished ability to fulfill the emotional needs of patients, and 37% (177/481) reporting an overall decreased ability to provide patient care.
- Radiologists reporting that COVID-19 has had a negative impact on patient care were more likely to be younger and have higher levels of anxiety and psychological distress, suggesting the impact of the pandemic on patient care may relate to physician wellbeing.
- Strategies to improve breast radiologists’ ability to care for, connect, and communicate with patients while maintaining necessary safety measures could have long-lasting benefits for both patients and physicians.

Introduction
Patient-physician communication is a critical component of patient care. Effective communication enhances adherence to screening guidelines (1) and treatment regimens (2), leads to better adjustment following a cancer diagnosis (3), decreases procedural pain (4,5), and can even mitigate socioeconomic barriers to health (6).

In addition to improved patient care, strong communication between physicians and their patients is important for physician wellness. Evidence suggests that poor patient-physician communication can contribute to physician burnout. The anxiety that physicians experience from a challenging patient interaction can persist for days (7), even for veteran physicians (8).

In addition to psychological sequelae, stressful patient interactions can trigger physiological changes in physicians, including changes in heart rate, blood pressure, skin conductance, and cortisol levels (9,10).

This physical and emotional exhaustion, as may occur from repeated poor patient communication interactions, is one of the three key signs of burnout (11). Additionally, there appears to be a direct relationship between the ability to build rapport with patients and a radiologist’s personal level of satisfaction. Effective rapport contributes to a sense of relationship building and leads to overall joy at work (12). Anything that inhibits effective rapport, such as obstacles to patient communication during a pandemic, or even physical barriers, such as personal protective equipment (PPE), can diminish this sense of connectivity (13) and decrease professional satisfaction. This effect can lead to depersonalization and even a low sense of personal accomplishment—the other two prominent features of physician burnout (11).

Emerging data demonstrate that the prolonged course and widespread impact of the COVID-19 pandemic, as well as the interpersonal challenges it has caused, have negatively affected the overall wellbeing of the healthcare community (14,15), including that of breast radiologists (16). Breast imaging is heavily reliant on effective patient-physician communication, often in the context of assuaging anxieties related to invasive procedures and delivering bad news. The purpose of this study was to assess the impact of COVID-19 on patient-physician interactions. Survey data were used to understand breast radiologists’ perceived ability to effectively communicate with patients during the COVID-19 pandemic and to evaluate the relationship between more restricted communication and the wellbeing of breast radiologists.

Methods
This study received a waiver from our Institutional Review Board. A cross-sectional survey was designed to assess the emotional impact of the COVID-19 pandemic on the breast imaging community. The full survey consisted of 41 multiple-choice questions and addressed the following primary endpoints: mental health, childcare, work safety, COVID-19 exposure, and patient care (Supplementary Material). Results related to mental health, childcare, and finances were previously reported (16). Results related to survey questions specifically addressing patient care are presented here (Figure 1). The full survey is available in the Supplementary Material.

The survey was created online (SurveyMonkey Inc., San Mateo, CA) and distributed by e-mail to the 2219 members of the Society of Breast Imaging (SBI) and the 1375 members of the National Consortium of Breast Centers (NCBC). Non-radiologists and members living outside of the U.S. were excluded from the analysis. Individuals were asked to complete the survey only once, given that some were members of both organizations. Partial survey responses were accepted. The survey was open from June 29th, 2020 to September 18th, 2020.

Anxiety Score
Participants were asked to respond to the following statement: “My anxiety has increased because of COVID-19.” Answer choices were provided using a five-point Likert scale and 1 to 5 points were assigned to each respondent based on the response. For example, respondents who strongly agreed with this statement received an anxiety score of 5, and those who strongly disagreed received a score of 1.

Psychological Distress Score (17)
Participants were asked to report whether they were experiencing an increase in any of the following seven symptoms due to COVID-19: anxiety, sadness, depression, anger, withdrawal, sleep problems, guilt, or “other.” One point was assigned for each of the mental health symptoms where
the respondent answered affirmatively. For example, a respondent endorsing three symptoms (eg, anxiety, sadness, and depression) received a score of 3, and a respondent endorsing all seven symptoms received the top score of 7.

Univariable Analyses
The proportion of participants who answered “yes” for a given patient care question was compared by level of each baseline categorical variable, such as gender or geographic region, using the chi-square test or Fisher’s test, as appropriate. Participant age was compared across categories of each binary yes/no patient care variable using the Wilcoxon rank sum test. Associations between binary (yes/no) patient care responses and ordinal baseline covariates (such as the anxiety or psychological distress scores) were evaluated using the Cochran-Armitage test of trend. Ordinal patient care variables were compared by level of each categorical baseline covariate using the Wilcoxon rank sum test. Correlations between ordinal patient care variables and continuous or ordinal baseline covariates were evaluated using the Spearman correlation.

Multivariable Analyses
Multivariable logistic regression models and corresponding ordinal logistic models were performed to evaluate factors that were associated with each patient care question as appropriate. The following candidate predictors were considered for the multivariable analysis: age, gender, type of practice, geographic region, total years in practice, anxiety score, and psychological distress score. The initial models included all the variables unless there was evidence of strong collinearity. Given that the anxiety score and the psychological distress score were correlated, either anxiety score or the psychological distress score were used in the model in separate analyses. Age was modeled as a continuous variable after confirming that the associations did not deviate significantly from linearity. Final models were selected using the backwards procedure for variable selection and $P < 0.25$ as the retention criterion. Analyses were summarized using odds ratios, their 95% confidence intervals (CIs), and corresponding $P$-values based on the final models.

Survey responses were also summarized descriptively utilizing the SurveyMonkey software. Comparisons were made between the demographic variables of respondents (eg, practice type and region) and the survey questions of interest using a Pearson chi-square test.

Analysis was performed using Excel (version 16.39, Microsoft Corporation, Redmond, WA) and SAS (version 9.4, SAS Institute Inc., Cary, NC).

Results

Demographics
A total of 628 surveys were completed and 525 of these met inclusion criteria after excluding non-radiologists (13%, 80/628) and international members (4%, 23/628). The overall response rate of those meeting the inclusion criteria was 23% (525/2290), which includes a 22% (478/2190) response rate among SBI members and 47% (47/100) response rate among NCBC members. Participants were spread out among all four regions of

46. Do you feel you are able to provide the same level of care for your patients as before the pandemic? If No, please select all reasons that may apply:
   a. Yes
   b. No-reduced imaging coverage/ availability of services
   c. No-reduced multidisciplinary interaction/discussion
   d. No-reduced patient contact
   e. No- other_____

47. During daily interactions, how has your ability to fulfill the emotional needs of your patients been affected by COVID-19?
   a. Improved
   b. Somewhat improved
   c. No change
   d. Somewhat diminished
   e. Diminished

48. How does PPE affect your ability to communicate with patients?
   a. Harder
   b. Somewhat harder
   c. No change as compared to without PPE
   d. Somewhat easier
   e. Easier

Figure 1. Survey questions addressing perceived impact of COVID-19 on patient care.
the U.S.: 38% (199/525) from the South, 24% (125/525) from the Northeast, 19% (102/525) from the Midwest, and 19% (99/525) from the West. Seventy-six percent (401/525) of these respondents were women, the mean age was 52 years (standard deviation = 10 years), and 71% (373/525) had been practicing for over 10 years. The majority of participants worked in private practice (50%, 260/525), academics (24%, 127/525), or a hybrid practice environment (community practice affiliated with an academic medical center; 20%, 104/525).

### Responses to Patient Care Questions

#### Fulfilling Patients’ Emotional Needs

Almost half (46%, 221/479) of participants reported that their ability to fulfill the emotional needs of their patients was diminished or somewhat diminished due to the pandemic (Table 1), and this response was associated with younger age in the univariable (rho = −0.13; \( P < 0.01 \)) and multivariable analyses (OR, 0.8 per decade; 95% CI: 0.7–0.9; \( P < 0.01 \)) (Table 3). This response was also associated with living in the Midwest or South in the multivariable analyses (OR, 1.6–1.8; 95% CI: 1.0–3.1; \( P = 0.04 \)). No significant differences in response to this question were seen among other demographic subgroups (ie, gender, practice type).

#### Communicating With Patients

The vast majority (88%, 422/478) of participants reported that PPE made it harder or somewhat harder to communicate with patients, and this response also correlated with younger age in the univariable (rho = −0.15; \( P < 0.01 \)) and multivariable (OR, 0.8 per decade; 95% CI: 0.7–0.9; \( P < 0.01 \)) analyses. Reporting that PPE negatively impacted patient communication was also higher among women (91%, 365/401) compared with men (81%, 100/124; \( P < 0.0001 \)), and this finding persisted in the multivariable analysis (OR, 2.0; 95% CI: 1.2–3.1; \( P < 0.01 \)). No significant difference in response to this question was seen among different geographic regions.

### Overall Level of Patient Care

Thirty-seven percent (177/481) of participants reported that they were unable to provide the same level of patient care due to COVID-19, and this was attributed to reduced patient contact (20%, 98/481), reduced patient services (19%, 93/481), and reduced multidisciplinary interaction (13%, 64/481). Some free response answers for why patient care was diminished included the following: loss of focus due to home stressors, emotional impact of the pandemic, insomnia, and limited ability to demonstrate empathy due to PPE. No significant differences in overall response to this question (yes versus no) were seen among demographic subgroups.

### Correlation With Physician Anxiety and Psychological Distress

Reporting a diminished ability to fulfill the emotional needs of patients correlated with a higher anxiety score (rho = 0.15; \( P < 0.01 \)) and a higher psychological distress score (rho = 0.12; \( P = 0.01 \)) in the univariable analysis. This finding persisted on multivariable analysis, with a stronger association seen with a higher anxiety score (5 points versus 1–3 points: OR, 2.3; 95% CI: 1.3–4.1; \( P < 0.01 \)) than psychological distress score (6–7 points versus 0–1 points: OR, 2.2; 95% CI: 1.0–4.8; \( P = 0.04 \)).

Reporting that PPE made it harder to communicate with patients correlated with a higher anxiety score (rho = 0.17; \( P < 0.01 \)) but did not significantly correlate with the psychological distress score, though a trend was seen (rho = 0.09; \( P = 0.06 \)). This association persisted on multivariable analysis, with those having a higher anxiety.

### Table 1. Overall Responses to Patient Care Questions

| Patient care questions                                                                 | Answers, n/N (%)                                                                 |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| During daily interactions, how has your ability to fulfill the emotional needs of your patients been affected? | Diminished/ Harder 185/479 (39%) | Somewhat Diminished/ Harder 235/479 (49%) | No Change 14/479 (3%) | Improved/ Easier 9/479 (2%) |
| How does PPE affect your ability to communicate with patients?                          | 135/478 (28%) | 287/478 (60%) | 54/478 (11%) | 1/478 (0%) | 1/478 (0%) |
| Do you feel you are able to provide the same level of care for your patients?          | Yes 304/481 (63%) | No (Total) 177/481 (37%) | No, Reduced Services 93/481 (19%) | No, Reduced Multidisciplinary Interaction 64/481 (13%) | No, Reduced Patient Contact 98/481 (20%) |

Abbreviation: PPE, personal protective equipment.
score more likely to report harder communication due to PPE (5 points versus 1–3 points: OR, 2.6; 95% CI: 1.4–4.6; \(P < 0.01\)).

The proportion of radiologists reporting an inability to provide the same level of patient care during the pandemic as prior to it was higher among those with higher

| Table 2. Univariable Associations Between Patient Care Questions and Specific Covariates |
|-----------------------------------------------|-----------------|-----------------|-----------------|
| A                                             | Age             | Psychological Distress Score | Anxiety Score  |
|                                               | Correlation Coefficient | \(P\)-Value | Correlation Coefficient | \(P\)-Value | Correlation Coefficient | \(P\)-Value |
| During daily interactions, how has your ability to fulfill the emotional needs of your patients been affected? (Range, 0–4; 4 = diminished, 0 = improved) | \(-0.13\) | <0.01* | 0.12 | <0.01* | 0.15 | <0.01* |
| How does PPE affect your ability to communicate with patients? (Range, 0–4; 4 = harder, 0 = easier) | \(-0.15\) | <0.01* | 0.09 | 0.06 | 0.17 | <0.01* |

B

During daily interactions, how has your ability to fulfill the emotional needs of your patients been affected? (Range, 0–4; 4 = diminished, 0 = improved)

| Response | Female, \(n/N\) (%) | Male, \(n/N\) (%) | \(P\)-Value |
|----------|---------------------|------------------|-------------|
| 0        | 6/363 (2)           | 3/111 (3)        | 0.2         |
| 1        | 11/363 (3)          | 3/111 (3)        | 0.1         |
| 2        | 173/363 (48)        | 59/111 (53)      | 0.4         |
| 3        | 144/363 (40)        | 39/111 (35)      | 0.7         |
| 4        | 29/363 (8)          | 7/111 (6)        | 0.3         |

How does PPE affect your ability to communicate with patients? (Range, 0–4; 4 = harder, 0 = easier)

| Response | Female, \(n/N\) (%) | Male, \(n/N\) (%) | \(P\)-Value |
|----------|---------------------|------------------|-------------|
| 0        | 0/362 (0)           | 0/111 (0)        | <0.01*      |
| 1        | 1/362 (0)           | 0/111 (0)        | 0.3         |
| 2        | 31/362 (9)          | 22/111 (20)      | 0.3         |
| 3        | 214/362 (59)        | 69/111 (62)      | 0.1         |
| 4        | 116/362 (32)        | 19/111 (17)      | 0.1         |

C

Do you feel you are able to provide the same level of care for your patients?

| Psychological distress score | "No" Response, \(n/N\) (%) | Anxiety score by "No" Response, \(n/N\) (%) | \(P\)-Value |
|-----------------------------|-----------------------------|---------------------------------------------|-------------|
| 0–1                         | 53/171 (31)                 | 18/85 (21)                                 | <0.01*      |
| 2–3                         | 67/192 (35)                 | 97/264 (37)                                | 0.8         |
| 4–5                         | 43/87 (49)                  | 62/132 (47)                                | 0.3         |
| 6–7                         | 14/31 (45)                  | *                                          | 0.1*        |

Reduced availability of services

| Psychological distress score | "Yes" Response, \(n/N\) (%) | Anxiety score by "Yes" Response, \(n/N\) (%) | \(P\)-Value |
|-----------------------------|-----------------------------|---------------------------------------------|-------------|
| 0–1                         | 31/171 (18)                 | 8/85 (9)                                    | <0.01*      |
| 2–3                         | 39/192 (20)                 | 53/264 (20)                                 | 0.8         |
| 4–5                         | 17/87 (20)                  | 32/132 (24)                                 | 0.3         |
| 6–7                         | 6/31 (19)                   | *                                          | 0.1*        |
anxiety and psychological distress scores (Table 2). This finding persisted in the multivariable analysis, with those having higher anxiety scores (5 points versus 1–3 points: OR, 3.4; 95% CI: 1.7–6.4; \( P < 0.01 \)) and psychological distress scores (6–7 points versus 0–1 points: OR, 1.7; 95% CI: 0.8–3.8; \( P = 0.03 \)) more likely to report decreased patient care.

### Discussion

This cross-sectional survey provides insights into patient-physician communication in breast radiology during the COVID-19 pandemic. More than many other radiology subspecialties, breast radiology relies on nuanced patient communication, and this study confirmed that the COVID-19 pandemic has negatively affected many aspects of patient care in the field. Breast radiologists who reported challenges in fulfilling the emotional needs of their patients, communicating with patients, and providing overall patient care were more likely to be younger and have higher levels of anxiety and psychological distress.

The COVID-19 pandemic has led to a global mental health crisis among the general population that is likely to continue to unfold over the next several years (18). This mental health impact is particularly potent among patients with cancer and other chronic illnesses (19). Breast imaging exams and procedures are already known to be an anxiety-provoking experience for many women (17) and the importance of effective, empathetic communication in adjusting to a cancer diagnosis has been repeatedly demonstrated (20). With increased breast cancer diagnoses and projected breast cancer deaths due to the healthcare backlog from the spring of 2020 (21), as well as the myriad added personal stressors on patients everywhere, patients presenting for breast imaging during the pandemic are in even greater need of compassion and empathy. Yet, 46% (221/479) of breast radiologists surveyed in this study reported a diminished ability to fulfill the emotional needs of their patients.

### Personal protective equipment and physical distancing

Personal protective equipment and physical distancing provide physical barriers not just against the spread of the virus but also to the physician’s ability to build rapport, such as reading facial expressions, listening in close proximity and at eye level, and holding a patient’s hand. It is therefore not surprising that 88% (422/478) of breast radiologists surveyed in this study reported a diminished ability to fulfill the emotional needs of their patients.

### Abbreviation

PPE, personal protective equipment.

*Significant \( P \)-value (<0.05).

\( ^a \) Anxiety scores of 1–3 were combined into one category because the number of respondents with an anxiety score of 1 (\( n = 11 \)) or 2 (\( n = 21 \)) was too small to obtain reliable estimates for these outcomes.

\( ^b \) Conditional probabilities of response for a given category of psychological distress or anxiety score. The first row, for example, provides proportions for the “no” response to the patient care question across the four categories of psychological distress.

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### Table 2. Continued

| Reduced multidisciplinary interaction | “Yes” | P-Value | “Yes” | P-Value |
|--------------------------------------|-------|---------|-------|---------|
| Psychological distress score         |       |         |       |         |
| 0–1                                  | 22/171 (13) | 0.3     | 1–3   | 9/85 (11) | 0.3 |
| 2–3                                  | 20/192 (10)  |         | 4     | 34/264 (13) |     |
| 4–5                                  | 18/87 (21)   |         | 5     | 21/132 (16)  |     |
| 6–7                                  | 4/31 (13)    |         |       |         |     |

| Reduced patient contact              | “Yes” | P-Value | “Yes” | P-Value |
|--------------------------------------|-------|---------|-------|---------|
| Psychological distress score         |       |         |       |         |
| 0–1                                  | 28/171 (16) | <0.01* | 1–3   | 8/85 (9)  | <0.01* |
| 2–3                                  | 34/192 (18)  |         | 4     | 49/264 (19) |     |
| 4–5                                  | 27/87 (31)   |         | 5     | 41/132 (31)  |     |
| 6–7                                  | 9/31 (29)    |         |       |         |     |

Abbreviation: PPE, personal protective equipment.

*Significant \( P \)-value (<0.05).

\( ^a \) Anxiety scores of 1–3 were combined into one category because the number of respondents with an anxiety score of 1 (\( n = 11 \)) or 2 (\( n = 21 \)) was too small to obtain reliable estimates for these outcomes.

\( ^b \) Conditional probabilities of response for a given category of psychological distress or anxiety score. The first row, for example, provides proportions for the “no” response to the patient care question across the four categories of psychological distress.
safety measures—in order to assuage, rather than contribute to, the mental health burden patients face in this and any future pandemic.

Beyond the direct impact on patients, radiologists reporting negative impacts on patient care were more likely to experience higher levels of anxiety and psychological distress symptoms, and may indirectly experience more burnout (24). Though causality is unknown, this finding is consistent with prior studies demonstrating that the physician-patient relationship can affect both patient and physician wellness (25,26). The prolonged mental health impact of these more challenging and unsatisfying patient interactions could result in an overall state of emotional exhaustion, depersonalization, and possibly even a sense of diminished personal accomplishment, which are the three key dimensions of burnout (11). Aside from the devastating impact burnout has on the individual physician, physician burnout directly undermines patient care as it leads to more medical errors, poorer overall care, and decreased patient satisfaction (27). Therefore, addressing potential sources of physician burnout

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### Table 3. Multivariable Analysis of Factors Associated With Patient Care Responses

**A. During daily interactions, how has your ability to fulfill the emotional needs of your patients been affected?**

| Variable                  | Odds Ratio of Worse Score (95% CI) | P-Valuea |
|---------------------------|------------------------------------|----------|
| Age per decade            | 0.8 (0.7–0.9)                      | <0.01*   |
| Psychological distress score 6–7 | 2.2 (1.0–4.8)                      | 0.04*   |
| 4–5                       | 1.3 (0.8–2.2)                      |          |
| 2–3                       | 1.5 (1.0–2.2)                      |          |
| 0–1                       | 1.00                               |          |
| Anxiety score             |                                    |          |
| 5                         | 2.3 (1.3–4.1)                      | <0.01*   |
| 4                         | 1.3 (0.8–2.1)                      |          |
| 1–3                       | 1.0                                |          |
| Region  
  MW                     | 1.8 (1.0–3.1)                      | 0.04*    |
|  S                       | 1.6 (1.0–2.6)                      | 0.04*    |
|  W                       | 1.1 (0.6–1.9)                      | 0.7      |
| NE                       | 1.0                                | -        |

**B. How does PPE affect your ability to communicate with patients?**

| Variable                  | Odds Ratio of Worse Score (95% CI) | P-Valuea |
|---------------------------|------------------------------------|----------|
| Age per decade            | 0.8 (0.7–0.9)                      | <0.01*   |
| Psychological distress score 6–7 | 1.2 (0.5–2.6)                      | 0.5      |
| 4–5                       | 1.3 (0.8–2.3)                      |          |
| 2–3                       | 0.9 (0.6–1.4)                      |          |
| 0–1                       | 1.00                               |          |
| Anxiety score             |                                    |          |
| 5                         | 2.6 (1.4–4.6)                      | <0.01*   |
| 4                         | 1.4 (0.8–2.3)                      |          |
| 1–3                       | 1.00                               |          |
| Gender                    |                                    |          |
| Female                    | 2.0 (1.2–3.1)                      | <0.01*   |
| Male                      | 1.0                                | -        |

**C. Do you feel you are able to provide the same level of care for your patients?**

| Variable                  | Odds Ratio of “No” Response (95% CI) | P-Valuea |
|---------------------------|--------------------------------------|----------|
| Age per decade            | 0.9 (0.7–1.1)                        | 0.2      |
| Psychological distress score 6–7 | 1.7 (0.8–3.8)                        | 0.03*    |
| 4–5                       | 2.2 (1.2–3.8)                        |          |
| 2–3                       | 1.1 (0.7–1.7)                        |          |
| 0–1                       | 1.00                                 |          |
| Anxiety score             |                                    |          |
| 5                         | 3.4 (1.8–6.4)                        | <0.01*   |
| 4                         | 2.4 (1.3–4.3)                        |          |
| 1–3                       | 1.00                                 |          |

Abbreviations: MW, Midwest; NE, Northeast; S, South; W, West.

*Significant P-value (<0.05).

Linear trend test reported for anxiety and psychological distress core.
from the pandemic is important both for physician wellness and improved patient care.

Reporting a negative impact on communication and patient care was also more likely among younger participants. It is possible that the older, more seasoned radiologists found ways to effectively communicate with their patients due to their experience, regardless of PPE, anxiety, and the pandemic. Younger physicians may be more sensitive to the perceived absence of effective communication given that this has been a recent point of emphasis by the Accreditation Council for Graduate Medical Education in 2012 (28). Studies have shown that compassionate-empathetic physicians tend to be younger and have fewer years in medical practice (29,30), and also report more emotional exhaustion than other physicians (31). It has been shown that younger radiology faculty are particularly prone to burnout at baseline (32), which may be exacerbated by prolonged limitations on patient interactions due to the pandemic. Thus, efforts should be made to support and mentor radiologists early in their careers on how to mitigate the challenges to patient communication caused by COVID-19-related safety measures.

Despite the personal and professional challenges faced by physicians throughout the pandemic, the majority (63%, 304/481) of surveyed breast radiologists reported that they were able to provide the same level of patient care as they did before the pandemic, a sign of resiliency within our field. Nonetheless, implementing strategies that help a breast radiologist care for and connect with patients while maintaining necessary safety measures could have long-lasting benefits for both patients and physicians. Masking and physical distancing in healthcare may continue long after the pandemic abates, and preparation for future pandemics should be considered. Twenty percent (98/481) of survey respondents cited decreased patient contact as a reason for their inability to provide the same level of patient care during the pandemic. The use of telemedicine has drastically increased during the pandemic (33) but is yet to be commonly used in breast imaging because patients need to be on site for their imaging exam or procedure. Creative uses of videoconferencing, such as delivering patient results or preparing patients for a procedure, may enhance patient communication without the limitations of PPE. In addition, 13% (64/481) of survey respondents cited reduced multidisciplinary interaction as adversely affecting patient care. Interactive virtual conferences and other means of remote collaboration across disciplines may improve the comprehensive care provided to patients, in addition to allowing for increased communication, relationship building, and a sense of accomplishment for the breast radiologist (34,35).

This study has several limitations, including volunteer selection bias and other biases inherent to a survey study design. The survey was administered in the summer of 2020, in the first year of the pandemic, and answers regarding patient care may have changed as patients and physicians adjusted to the new healthcare environment. Finally, the anxiety and psychological distress scores are non-validated tools based on self-reporting of mental health symptoms. A follow-up study to assess changes over time is needed and should include more comprehensive and validated metrics to capture physician wellness and mental health.

Conclusion

This survey study demonstrates the significant impact of the COVID-19 pandemic on patient care in breast imaging, as perceived by breast radiologists across the U.S. Breast radiologists reported difficulty communicating with patients due to PPE and physical distancing, a diminished ability to fulfill the emotional needs of their patients, and an overall decreased ability to provide patient care. Radiologists reporting a negative impact on patient care were more likely to be younger and have higher levels of anxiety, suggesting the pandemic’s impact on patient care may relate to physician wellbeing. Strategies are needed to improve the ability of radiologists to communicate and care for patients while maintaining necessary safety measures in order to better adapt to the current and any future pandemics.

Supplementary Material

Supplementary material is available at the Journal of Breast Imaging online.

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Conflict of Interest Statement

B.N.D. is a member of the advisory board for Premier-GE Healthcare. V.D. is a consultant for Intrinsic Imaging Inc. and Hologic Inc. The remaining authors have no conflicts of interest to disclose.

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